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REASSESSING UTOPIA AS DYSTOPIA IN ARTHUR C. CLARKE'S *CHILDHOOD'S END*

Aghayeva Agha Nigar

PhD Student of Azerbaijan University of Languages

Nigar.aa@mail.ru

Abstract. *As a narrative born out of the search for a better state of existence, utopian fiction focuses on the formation of an ideal, imaginary society with a perfected socio-economic and political system that functions in harmony, happiness, justice and freedom. However, a closer look into this idyllic system shows that perfection and freedom are merely the appearances and in the basis, these texts reveal a society that is controlled and disciplined by a totalitarian state and its oppressive institutions. As the opposite of ideal system, dystopian fiction focuses on a community or society that is undesirable or frightening as the individuals are in every way subjugated under the rule of this totalitarian system.*

*Dystopia is a place or state in which the illusion of a perfect society is maintained through a totalitarian government and oppressive control. Correspondingly, rethinking utopias points out that underneath the impeccable appearance, utopias present flawed systems that are dystopic in formation and progress. In this context, in utopias the formation of the state, the hierarchy of power and classes, and the treatment and status of the individual within the power relations correspond to the dystopias, yet while in dystopias the brainwashing and discipline proceed through fear and violence, in utopias this process takes on a subtle method. In this context, significant utopian novel of the late twentieth century, Arthur C. Clarke's *Childhood's End* (1953) can be read as dystopia which, beneath the surface*

of ideal societies actually feature prison-like, severely controlled societies in which the individuals are oppressed and reduced to the position of the objects of the state.

Thus, the aim of this study is to examine Arthur C. Clarke's Childhood's End in the formation of the state, the hierarchy of power and classes, the treatment and status of the individual and the discipline and control that are enforced on people to construct the social order and harmony are actually formulated on dystopian characteristics. In that sense, a reexamining of the utopias shows that utopias can be read as dystopias whose characteristics are covered beneath the harmonious and peaceful surface of an ideal society.

Keywords: *utopia, dystopia, system, society, science fiction*

1.Introduction

Emanating from the frustration with the flaws of the current form of political rule, the search of a better system, defined as utopia by Thomas More in his significant literary work *Utopia* (1516), is based on the premise of unsettling and displacing the positions of power so as to formulate a better state. In this sense, utopia is the image of an ideal community that aims to organise a perfect system to justify the principles on which it is based, as a reaction to the present that it is born out of (Galston 27-29). Utopias are created to find a possible solution to the problems of the society and political systems, as well as to criticize the power and control relations. On this account, utopia is a literary genre that is comprised of philosophical, literary, and political meditations that focus on the formation of an imaginary society with a socio-economic and political system that functions on harmony, justice and order (Suvin 38-40).

As utopia is concerned with searching for the ideal, it is “a kind of reaction to an undesirable present and an aspiration to overcome all difficulties by the imagination of possible alternatives” (Vieira 7). Subsequently, it is a challenge against the society one lives in; and rather than being merely fictional, utopia is the expression of the desire for a better and improved socio-political system that is

expected to be achieved and is strived to be inspiring. Nevertheless, within the framework of utopia, the thought of a new socio-political order, even with the intention of correcting the shortcomings of the already existing system, requires a new form of power structure.

For every social or political order hinges on limitation and as order is based on the suppression of free will so as to privilege communal benefits, utopia is against total freedom of the individual. They bring forward a stable, unchanging, isolated, enclosed states that aim toward the greatest happiness for the greatest number of people; yet do not realize that the methods employed in the achievement of this ideal results in the making of a dystopia. Whereas utopia encompasses the ideal place, government, and legal system; dystopia is a concept presented as the undesired one in literary works. In that sense, if one identifies utopia as the embodiment of a dream, dystopia refers to a nightmare as the opposite notion. Dystopias, emerging as the possible consequences of utopian ideals of previous ages, both express and criticise utopian thoughts of the time they are written in, as well as the conditions of the state at the time.

With the two World Wars changing the socio-political structure and ideals of the entire world, twentieth century was marked by the evolution of utopia into dystopia; the alienation and disbelief from anti-utopian narratives becoming a pessimist vision of near futures in mostly industrial dystopias. In other words, dystopia is an imagined place or state in which the illusion of a perfect society is maintained through a totalitarian government and oppressive control. As the opposite of ideal, dystopian narratives focus on a community or society that is undesirable and frightening as the individuals are in every way subjugated.

2. Discussion

In light of all these ideas, this study aims to analyse Arthur C. Clarke's *Childhood's End* using the discourses of power, discipline, and control by inquiring whether the utopian ideals are as bright as they are promised to be, and whether these seemingly perfect places enable human identity to exist in their structure. As they

limit each and every aspect of human life and activity as well as carefully control the free will, this utopia can be read as prison that is mere appearance of ideal. The novel selected for analysis in this study demonstrate that the disagreements between the authority and the individual are still the focal point of utopian fiction within science fiction, and that with regard to a world where hegemony, dominance, and rigid stratification are on the core of formulation, utopia contain dystopic qualities that eventually causes the system to result in a dystopian reality.

Thus, in Arthur C. Clarke's hard science fiction novel *Childhood's End* will be discussed in terms of the re-creation of the mythical utopian Golden Age by alien Overlords and the realization of its dystopian core through the apocalyptic ending of human race. Clarke, as the historical background of the 1950s show, discusses that the utopian ideologies eventually become dystopian states, just as both the communist and capitalist utopian ideals resulted in totalitarian states in history. Both the utopian society formed by the Overlords and the utopian city formed by humans as a resistance display the seeds of dystopia in the control and discipline methods, the Panopticon that forms the basis of the utopian rule, and they eventually end in apocalypse of humanity – which is the all-encompassing dystopian end.

In the light of the argument given above, Arthur C. Clarke's *Childhood's End* (1953) is one of the most important science fiction novels that act as a critical utopia in the post-war time so as to criticise the extremities in utopias and their dangerous consequences. Through science fiction conventions such as alien invasions, space travel and apocalyptic futures, he is one of the authors who argued that in terms of their establishment and maintenance, utopian states are formed as totalitarian systems that operate on the idea of submission, discipline and control to achieve ideal form of rule under the appearance of freedom and happiness.

Arthur Charles Clarke is one of the highly acknowledged writers of the science fiction genre, especially considering his position as one of the members of the Big Three – which is the group of the pioneer science fiction writers between 1950 and 1970s, consisting of Robert Heinlein, Isaac Asimov, and Clarke himself, as Jacoby

states (*The End* 45-50). He is a significant novelist who has been acknowledged as a towering figure of science fiction by turning the genre into a complex narrative that dealt with discourses and critiques of the socio-political reality within the science fiction themes of alien invasion, space exploration, technology, and apocalypse (Moorcock 220).

Childhood's End tells the story of benevolent, supremely intelligent alien Overlords who visit and invade the Earth so as to bring an end to poverty and war by forming a utopian Golden Age – only to reveal in the end that they are in the service of an even higher intelligence, and that they led the human children to give up their individual souls and personas to merge with this superior Overmind; thus, bringing forward the end of humanity. In this science fiction dystopia, Clarke portrays the utopian formation with its initial undertaking, gradual progress, and with its eventual dystopian aftermath through the stories of a number of protagonists and time leaps. As the text ponders the stages of utopian configuration by showing the existing conditions of the social and political order in different times, in this novel, Clarke offers not only a dramatized report of the emergence of man's ultimate utopia, but he shows how man passes to that utopia through a series of temporary utopias. As Rabkin and Scholes point out, “of all utopian science fiction, the most widely respected and enthusiastically read is *Childhood's End* . . . it is both a particular story and a survey of the development of utopian thought, thereby defining a substantial portion of the range of science fiction” (216).

In this world national boundaries have vanished, and television and the use of the English language has helped to erase differences between peoples. It is a completely secular age, although a form of purified Buddhism survives: all the revealed religions have collapsed, thanks to education and to the time-viewer that the alien Overlords lent them, allowing people to see what the prophets and religious leaders of the past had really been like. There are few psychological problems, and almost no crime (which, says Clarke, made newspapers very dull). There is sexual freedom with regard to the oral contraceptive and an infallible method of determining

the father of any child; there is extreme freedom of mobility, “the race was too intent upon savouring its new-found freedom to look beyond the pleasures of the present. Utopia was here at last: its novelty had not yet been assailed by the supreme enemy of all Utopias – boredom” (Clarke 64).

Childhood's End operates in a similar manner in rejecting the blueprint of the utopian Golden Age by displaying the negative consequences, yet preserving the desirability of the idea of utopia. It appears to be an idealistic state, yet it is not a permanent solution to the current human condition and it has a variety of negative consequences. Tom Moylan defines critical utopias as utopias which both include a critique of the utopian tradition of emphasizing social order over individual freedom, as well as descriptions of emancipating utopian societies. The images and events in this story, likewise, are “manifestations of the collective unconscious” and that this story is meant to be “compensatory to the conscious attitude [prevalent in Clarke’s time]” (Jung 165).

3. Conclusion

Utopian and dystopian fictions are narratives that give a space to the writers and philosophers to meditate on the kind of world they want to live in, the conditions required in building such systems and places, and the social and political regulations that should be criticized in the world they already live in. As such, these writings have been the medium of criticism and satire both in literary and non-literary areas of thought. As Sargent puts it, they are the instruments of social dreaming, “the dreams and nightmares that concern the ways in which groups of people arrange their lives” (“Three Faces” 3). Utopian societies continuously aim to eliminate vices such as social conflict, accident, tragedy, all of which are the elements that would make a development in any society; yet whether the fulfilment of this desire guides the society to a better or a darker turn has become the most discussed issue in the academic studies about the genre.

Similarly, in the twentieth century utopia, as a concept, has been problematic, full of social and moral conflicts as per with the chaotic turn of the century, its

characters diversified and searching for a meaning in a world that is soon to be devoid of one. Many of the millennial publications reprised these themes, identifying utopia as dangerously contrary to human nature. Yet others ignored both the totalizing and the political colouring, focusing instead on utopia as “the pursuit of happiness, the satisfaction of desire” (Levitas “Elusive” 3). Yet still, history reveals that even though utopia is an aim towards better in theory, it ends up in a worse condition when put into practice – as can be seen in the utopian beginnings and dystopian endings of the Nazi State, the Soviet Russia, and other related events, all of which marked the twentieth century.

As pointed out in the introduction, in the light of the arguments in this thesis the main problem is the nature of utopia itself. Lyman Tower Sargent’s statement that “utopianism is essential but dangerous” (22) acknowledges utopia’s problem, but emphasises an important trend in the current debate about the value of utopianism: “in one, utopia is seen as leading inevitably to force, violence, and totalitarianism. In the other, utopia is seen as an essential ingredient of freedom, civilization, and even of being human” (26). Opponents of utopianism claim that utopias are totalitarian states that are not realized; in that “if a utopia contains a blueprint for the perfect world, there can be no space for dissent. They must therefore be repressive” (Sargisson 28).

However, without the optimistic possibilities utopia represents, apathy may be the consequence, which can create worse futures. In its core, utopia preserves the belief that humans can improve social conditions; belief creates hope, hope generates effort, and likewise social changes depend on the desire for utopia. Despite inherent contradictions, Sargent claims utopias jointly form “the basic pattern of attitudes to social change” (28): hope is replaced by failure and a feeling of hopelessness, which again causes rejection of hope, followed by a renewal of hope.

In the framework of the Cold War, Clarke doesn’t prioritise the possible existence of a better world or a better future, but they give a critical frame of a specific subject in a literary and fictional ground. The author has his own approach

to the utopian/dystopian analysis of his novel. Clarke gives a different picture as he portrays the apocalyptic ending of the recreation of the Golden Age, which is not necessarily a dystopia in its premise – the humanity has come to an end but the children are still living, albeit in a different form.

In that sense, the main aim of this article has been to analyse the idea of utopia and to argue that although utopia is the core of idealist political thinking in theory, it evolves into an ideology in practice, resulting in a dystopian world. Through Cold War British science fiction novel, Arthur C. Clarke's *Childhood's End*, which act as critical utopia in criticising the extremities of utopian ideals and the historically proven dystopic consequences, it is argued that in terms of its establishment and maintenance, utopian states are totalitarian systems that are characterised by submission, discipline and control to achieve ideal form of rule under the appearance of freedom and happiness. Whether formed by humans or the intervening hand of aliens, utopias stand for good places in theory but become dystopic states in the end – exposing the dystopic quality inherent in the formation of utopias.

Every utopia always has a dark seed within itself, and whether by force or evolution, it always reveals its dystopian face. After all, as Claeys points out, “the great European empires were ‘utopias’ to their designers – extravagant dreams of national and personal glory, imposing order on vast populations of unwashed, heathen savages, but they were also dystopias to those who has no wish to be ‘civilized’ so violently and rapidly” (*Searching* 205).

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**FICTION FILM SCRIPT, THE DIFFERENT MODELS AND STRUCTURES
OF THE SCRIPT, THE CONFLICTS BETWEEN THE SCRIPTWRITER
AND THE PRODUCER, AND THE FILM DIRECTOR AS THE ONLY
AUTOR OF THE FILM**

Bojadzi Jani

Master of Film and Television Directing, Associate Professor at the University
of Europe Prima Macedonia, PhD candidate at Neofit Rilski University Bulgaria,
Pandil Shishkov 22/88 str. Skopje, Macedonia, janibojadzi@yahoo.com,
www.janibojadzi.com

***Abstract.** Script must exist in order to make a fiction film. However, the script is not the film itself, but rather a plan for it. Once the film is shoot, the script ceases to exist. So what is the motivation behind being an author of something that does not exist in the end? If the script, written by the scriptwriter, entails the story, i.e. the plot of the film, then the question arises who is really the author of the only product of the film production, and that is the film itself? In the US, the process of writing and producing scripts is predominantly commissioned, funded and controlled by film studios and major producers. In Europe, script writing is commissioned, organized and controlled by a variety of interconnected organizations, foundations and film festivals, all of which are ultimately funded by EU institutions and national film agencies of the individual member states. This system of organization moves the film industry forward. But that industry mainly creates mass production of films that aim to entertain the members of the audience, treated as consumers of film products. According to many directors, this system creates conflicts and restricts the freedom, creativity and innovation of the only author of the film - the film director who primarily understand himself as an artist. How was this system created? What exactly*

is a movie script? Who writes them and how are the scripts written? What is the script's form, structure and content? Does control mean both censorship and restriction of freedom of expression? What are the other forms and ways of writing a script for a fiction film? This research paper aims to address these key questions, explore and elaborate the conflicts between the director on the one hand and the producer on the other, as well as present the approaches for avoiding or minimising these conflicts. By applying the methods of comparative analysis and by reflecting on my practical experiences, university research with students and my professional career in the film and television industry, within this paper it will be proved that at the end of the film production process, the director is the sole author of the fiction film. The research paper will contribute to my doctoral dissertation "The tools and instruments of work of the film director in the process of research, preparation, production, post-production, promotion and distribution of a fiction film".

Keywords: *The film script and the film director's struggle against its existence*

"Cesare Zavattini illustrates the relationship between the screenwriter and the director with the following example. A shy young man sees a beautiful girl, dreams of her, sighs, finally manages to talk and invites her to the cinema. After a few weeks, he convinces her to visit him. He put a music. And offer a glass of wine. Gather courage and kiss her for the first time. He persuades her to take off her dress. And at that moment someone else enters and takes her to the bedroom. The other one is the director". (Konchalovsky Andrey, p.60, 2003)

In recent years, it has become easy to be film director and make a movie. Now you go to the bank as you go to the store. You go in and ``buy`` money. Each student can raise ten thousand dollars in credit and make their first film. But where can you buy ideas? Are there any idea stores where we can walk through the shelves of that store and buy a movie idea? There is no such thing. Ideas, especially good ideas, do not sell. They are sought after, in reality, in the living life that the director lives from film to film. Therefore, any director who is looking for an idea for a film, it would be

best to search for it anywhere and anytime. Very often short stories, novels and literature in general are the world of film ideas. Like the movie itself which is a world of movie ideas. Many successful and good films are based on an idea initiated by another film. Watching other people's films should not be seen by the director only as a need to be informed about the condition, fashion, styles or way of working of another director that is your favorite, rival or competition, or to consider it a moment of personal weakness or jealousy. We must openly face our envy, but not with that low human envy as a weakness or a hidden desire for something bad to happen to someone, but as a real, strong, encouraging, creative envy. And of course to be persistent and to have a desire to realize the ideas dedicated, every day, in every way, from desire to passion. Martin Scorsese got his first screenplay for "The Gangs of New York" in 1977, and for twenty-five years he has tried to make it in various ways. "In 1981 I tried to make " The Gangs of New York " with producer Arnon Milchan. I had a script that could serve as a starting point, but I could not pass that stage before the end of the eighties. Today the sword is true, but it took time to be realized" (Scorsese Martin, p.151 2003)

If the world of reality and the world of fantasy are the materials - the goods, the fabric from which the director makes his own creation, then what are the tools which he, basically a craftsman, practices his work? Once everything is added and subtracted, at all stages of film production, from the birth of the idea, through the writing of the script and development, the filming and the entire post-production along with the promotion and distribution, there is a separate a professional who does all the necessary work in that department or ancillary service. So what is left for the director to do and what are his tools of work?

1. Screenplay, writing, adaptation and collaboration
2. Characterization through the process of working with actors
3. Film editing and post-production image, sound, special effects and design.

In addition to this kind of "holy trinity", as a separate task, but also as a general idea from the beginning to the end of the film production, there is always a segment that is in everything and every wear, and that is:

4. Promotion and public presentation.

What needs to be further explained before proceeding with the analysis of the director's tools of work in the art and film industry? These researches essentially refer to the director who is both a producer and a screenwriter, that is, they are largely dedicated to the director as a complete author. In that sense, I consider as a complete author the director who is not a producer of his own films, but only a director and a screenwriter. Some directors, in addition to writing, very successfully present themselves as actors in their own and in the films of other directors. Many directors are also editors of their films and some are music composers, production designers and cinematographers. Some directors appoint collaborators for the most important positions, always as their personal choice. This also applies to them. "All this only once again confirms that the film is syncretism in art always will be an authorial work like any other art. Regardless of the fact that the director can get huge power from his collaborators, only his idea shapes the film as a whole. Only what is refracted through the prism of his subjective authorial vision is artistic material and forms that special, complex world that is a reflection of real reality. Bringing all this to one person, normally, does not diminish the artistic contribution of the other participants in the process of making a film. However, here too there is one conditionality: true integrity is obtained only when the director makes a choice of the other participants proposed in the process. Otherwise, the integrity of the work is disturbed". (Tarkovski Andrey, p. 36, 2018.) "I think my function is to tell the film visually, where to put the camera, what lens to use and what the actor should look like. I consider that my responsibility to the story. The other function I practice almost completely is the editing. I consider myself the editor of my films and I work with the person appointed to that position. The other function I take more seriously is showing the film - how it will be distributed, what the promotional materials will look like, what the campaign will be

like and what the marketing will be like.” (Spielberg Steven, p.83/84, 2005) This study addresses the script as the director's first and foremost tool. The story, its structure and the technology for its creation is the basis on which all other tools that lead to the ultimate goal, the creation of a film, are further built.

Writing a screenplay is like walking to the top of a mountain. It often happens that you go one way up and stand lost looking around wondering where I am now? Alone and lost, you do not know in which direction to go forward to the top and you are afraid to go back because you are not sure that you will do it the same way you got there. This is the state when you sit in front of the page and do not know what to do next. Where to go? That's the question you often ask yourself when writing a movie script. “Today, the popularity of screenwriting and filmmaking is an integral part of our culture and it cannot be ignored. Go to any bookstore and you will see many shelves with books dedicated to all aspects of how movies are made. In fact, the most popular specialties that college youth enroll in are business and film campuses. With the dramatic increase in the use of computer technology and electronic imaging, the expanding influence of MTV, reality TV, Xbox, PlayStation and new wireless LAN technology, and the huge increase in the number of film festivals here (in the US) and abroad, we are in the middle of the film revolution”. (Field Sidney, p.2, 2005.)

Screenwriting is not literature. Screenplay is not a literary genre. The script is not an essence that can exist on its own. If a movie script is not realized as a movie, it does not exist. But there is another bigger paradox in this matter, and that is that the script for the film does not exist from the moment the film is shot. So, no matter how we look at it, analyze it or understand it, the scenario does not exist. It is just a structure that needs to spill over, melt and move into another structure. “She (Susan Barron, *My Note*) made it clear to me that filmmaking is a real alchemical operation that is a transformation from paper to tape, a transition from this to that. Transmutation. Change of matter. As in the caterpillar. When at that moment she had already transformed, regained her last form and started flying from flower to flower,

all that was left of her was a dried bark falling from the tree carried away by the wind. So it is with the script. Once the movie is made, it flies to the trash!" (Jean-Claude Carriere, p. 137/138, 2003)

If so, then where does the desire of so many different people to write screenplays come from, and they know that it is a job that can be said to be done well only if it is invisible and cannot be recognized as something existing for yourself? There are many answers to this question, but the most important and perhaps the essential answer is in the sphere of the magical and alluring power of the film to which we return whenever we have no answer or support from the rational mind, aware that the need for creation is a state of spirituality where the forces of emotion and the irrational rule.

In Hollywood, Studios practice hiring different screenwriters for different stages and different versions of screenwriting. Most of those writers are anonymous. Behind most of the screenwriters whose names we read on the credits of American Studio films are the invisible people, sometimes dozens of screenwriters who anonymously participated in the writing of the synopsis, the treatment, others in the writing of dialogues, others in the writing of draws and some were hired or only as writers of new versions of the existing script. "Sometimes a producer or a production company has an idea and tells you to develop it into a script, and then you collaborate with the producer and the director. In the "Raiders of The Lost Ark", for example, Lawrence Cassdan met with George Lucas and Steven Spielberg. Lucas at the time only wanted to use the name of his Indiana Jones dog after the hero (Harrison Ford). The other thing he knew was that the last scene of the film would be housed in a huge military basement warehouse filled with thousands of boxes of confiscated secrets, just as the basement scene in Citizen Kane is filled with huge art boxes. That was all Lucas knew about the film at the time. And Spielberg just wanted to add a mystical dimension to it all. The three men spent two weeks locked in an office and made a general line of stories (Treatment, my note). Lucas and Spielberg then went on to

work on other projects, and Cassdan entered his office and wrote the screenplay for Indiana Jones” (Field Sidney, p. 278, 2005).

Very often, the producer’s blackmailers require scripts to be written in several versions, sometimes with different screenwriters at the same time in order to check if all its potentials are exhausted and most often the author of the script is the one or those screenwriters who worked on the last version of the script. And once that is adopted by the Studio the script goes into production. But what is the path of the script from idea to realization? Although this seems like the easiest part of all stages of film production, it is still the most complex segment of that whole syncretism endeavor called feature film production. “The third types of screenwriters are those who are invited for a certain part of the work. Some are masters of writing a finale, others are masters of gags, and still others are masters of dialogue. Scenarios often have four or five authors. It is like building a house: first the walls are built, and then others install the windows, third install electricity, and fourth lay the tiles. That way the script often reaches a million. Everyone does their job, takes the money and leaves without claiming authorship.”(Konchalovsky Andrei, p.68/69, 2004) "However, in my opinion, the real scenario is that in itself it has no task to leave the viewer a complete and complete impression, but to be translated into a film and only then, in the context of the film work (the script) to get its full form`. (Tarkovski Andrey, p. 86, 2018.)

There is a very well-known axiom in the world of film, especially in Hollywood, and it is largely perceived as ultimate wisdom, as almost a kind of scientific truth that we must not doubt and question. Here is that axiom: `` You can make a good movie out of a good script; you can make a good movie from an average script; but you can't make a good movie out of a bad script. And here all your energies should be directed - to write the best script you can`. (Field Sidney, p. 302, 2005.)

My experience and this research lead to the same sea, but through the many rivers and tributaries that have to be crossed and swam, sometimes even after reaching the sea it can happen that it is just another destination that leads to the vast expanse of movie oceans. That is why I propose this axiom below as professionally relevant. Here it is: "It takes three things to make a movie"!

1. Good idea
2. Good story
3. Good script

Why do I think these three things that essentially consist in all the scenarios of this world should be separated and considered separately? Because the idea is not enough to make a story, the story is not a scenario according to which the next film will be shot. And of course the idea for a film can come from one place, another to develop the story and a completely third person or completely third people - screenwriters to write the script. Therefore, we will consider all three of these elements separately.

"The person who tells the story is her master." It is an old Mediterranean folk saying. Remember this. You tell the story - you are the master. And, something very important before we start talking about the world of stories and ideas. Ideas have no master. The idea cannot be protected or patented. So be careful who you share your ideas with! Don't you read them tomorrow in a script or see them in a movie?! Good luck.

"Everyone is a writer. That's what you will learn. As you share your enthusiasm for your script, everyone will have a suggestion, comment or better idea of what they would do. Then they will tell you about the great idea they have for the script." (Field Sidney, p.306, 2005.)

Every movie in this world started with the sentence: "I have a good idea"! And most often these good ideas are born in film lovers, people with different education, creative's from industries that service or gravitate to film, actors, composers, various artists, and professionals from theater, television and media in general, and most

often they are writers or journalists who write in other genres and many of them are successful in that. And finally there are our friends and relatives who really watch a lot of movies, even more than us who produce them. And their ideas for "our" next film are not always bad, some are really very good and sometimes ingenious, but they are almost always unusable, they can rarely be used to produce a screenplay and often end up in the bin for waste in the world of ideas, because almost none of those people who have a good idea will turn it into a script. They just have a good idea. And that's all! "An author had an idea for a movie. And he has more or less general ideas about its content and maybe even about the contents of some individual scenes and he fixes them on paper as a literary form. He creates a literary plot of the narrated action, characterizes the persons acting, makes them meet or separate, resolves one or another given circumstance and in the end brings it all to a certain solution. / We do not call that written thing a script, but a literary theme for a script". (Pudovkin Vsevolod, p. 22, 1973.) "If we look at the history of film, there were a lot of people who wrote their movies (scripts) while shooting the film. When I tell you that we've been making the movie "King of the road" day by day and we never knew what we were going to shoot tomorrow, a lot of people are amazed. But this method is no exception. Even in Hollywood, many people carry their scripts early in the morning on the day of shooting. There have always been two sides, both ways of making films: the purely industrial, the so-called auto industry, and the other - the white paper or the white screen the next morning". (Wim Wenders, p.185, 2003)

There are many bad scripts in the history of film written by very good idea. And those bad scripts are mostly written by people who do not know film as a technology. That is. They do not understand that film is a production process, like any other organized production of anything else in this world, from beer and shoes to cars, or production of furniture and clothing. There is no difference. To a large extent making a film is very close to making a mall. It starts with an idea that in the next phase should be turned into an architectural plan in which the way it will be built, the choice of location, the material that will be used for that building, the floors, the

contents, the way of functioning, its exterior and interior design, parking spaces, business department with administration and banks, clothing section, for family needs, for food, entertainment, cinemas and toilets. It is all precisely drawn, described and in most cases except sketches. That plan contains drawings, realistic photos and videos through which we, who are not engineers or architects, can understand exactly what it will all look like in the end, when this mall it will be built. Although that architectural plan contains everything, we can not live in it, to park, to make a transaction in a bank, to have lunch in one of the many restaurants, to go to a bowling alley or to the cinema. It's just a plan for him, not a real mall. The expression "The movie is being shot" is completely incorrect and should be discarded. The film is not "being shot" but is "being built". It is made of separate pieces of tape (when the film tape was used, my remark.) which is its building material. (Pudovkin Vsevolod, p. 88, 1973.) Famous editor Telma Schunmaker, when asked if she reads screenplays for the films she edits, says that she first reads screenplays and then tries to forget them because she prefers to feel the film after the footage they regularly send her during filming. "I want to see what Marty (Martin Scorsese) is filming and react only accordingly. For him, the script is not the true reflection of what he wants to do. Movies are always more complex and deeper than screenplays. (Scorsese Martin, p.128, 2003.) The movie script is an "architectural plan" that contains everything a future movie should have, but it's not the movie! Who makes architectural plans? The architects, of course. And later in its realization are included engineers, designers, various contractors, many service activities and of course professionals and workers from various professions. If this is the case in all other industries, then why in the film industry can actors, designers, composers, writers or journalists write scripts? Is that acceptable and normal? In the movie yes, that is acceptable and normal. This practice has been talked about and debated a lot in the film for decades. This problem is as old as the movie. "Everyone writes scripts, from the waiter at your favorite bar or restaurant to the limousine driver, the doctor, the lawyer or the waiter while serving white chocolate, beans or coffee. Last year (2005,

My Note) more than seventy-five thousand screenplays were registered with the Writers' Union of America, and of that number, perhaps four hundred or five hundred screenplays were produced. (Field Sidney, p.18, 2005.)

Jean-Claude Carriere talks about what happened to him when he went to the studio of the famous director Jacques Tati as a young screenwriter and the first thing Carriere asked was: "Do you know how to make a film? Carriere said he did not know and Tati called the editor Susan Barron to take him for a walk. At the end of the presentation, she showed him how to mount a film on the editing table. For Jean-Claude, it was all new, confusing and frightening, because he realized that making films was a technical thing. And as if that were not enough for her, she took him by the hand and put him on the screenplay of the movie "Mr. Hulot's Holiday" and then moved it to the roll with a negative movie and told him: the whole thing is in switching to this in that`! (Carriere Jean-Claude, p. 137, 2003.)

There are countless theories, claims, opinions and beliefs that the system of writing and mass production of screenplays was invented to control the directors and their urge to make a film as a work of art that will present the director as an author, artist, influential person in one a small limited circle of educated people, not as a skilled producer of a common product for mass sale on the world market. For that purpose, thousands of workshops, lectures, seminars and master classes are funded on how to write a screenplay in different phases, from the idea for a film to its realization. In that system scenario it is presented as a separate author on whom the future film depends, or it goes to the point that the script is considered a separate work and art in itself. I have participated in such events and there you can learn many useful things about what the script should look like as a form or structure and how to develop an idea from an annotation, a synopsis to a feature script according to which the next film will be shot. So far, I find this useful and acceptable. "If you are not aware that the script is for filmmaking (and in that context it is a raw material, nothing less and nothing more than that) it is impossible to make a good film. Something different, new, can be done, maybe even good, but the screenwriter will

not be satisfied with the director. The accusations against the director that he "ruins a good idea" are not always justified because the ideas are often literary and only in that sense they are interesting, so the director is forced to transform and disperse them to make a film. " (Tarkovski Andrey, p.85, 2018.)

This freedom of the director to make changes, interventions, inversions, to write or shorten remarks and dialogue in the script written by someone else is inherent in original cinematography in Europe and certain parts of Asia. A small group of directors and producers working in America, especially those who are part of Hollywood, have such an exclusive opportunity. In general, the right to work unrestricted by anyone and with anything that makes the director a kind of god or demiurge was a benefit of European cinema and especially Eastern European cinema in the time of socialism, when authors in those countries had the freedom to tell with a narrative and structure that even nor did they fully understand it with the sole purpose of presenting themselves as artists who would produce a work of art different from others. In the age of socialism, directors in Eastern Europe and Russia faced another kind of restriction - state censorship. That state censorship has existed in the East since after World War II and still exists in the

West in Europe and America, where in addition to official censorship by individual governments, there is censorship imposed by the study, financiers, trade unions, political and economic centers of power. Censorship is one of the biggest factors influencing the director's freedom as an author and artist. But even more dangerous is the so-called self-censorship, which is the most dangerous virus that eats and destroys every creation, at all times and in all systems. In this sense, directors who are determined or self-determined as part of a so-called authorial film, such as Andrey Tarkovsky, for example, see the script as a yoke, a limitation that stands in the way of the director as a complete and unlimited author / artist who for that freedom he has to fight many battles that do not always promise and win. "Once the director gets the script and starts working on it, he is always faced with the fact that the text, no matter how profound and well-planned, necessarily starts to change. He

never gets his true and literal portrayal on the movie screen. There is always a certain deformation. That is why the joint work of the screenwriter and the director always turns into a struggle and a conflict. A good film can be obtained when during the collaboration between the screenwriter and the director, their original ideas disintegrate and collapse, so from those ruins a new concept is born and a new organism begins to be created". (Tarkovski Andrey, p.87, 2018.) Why do directors like Tarkovsky see filmmaking as a kind of battle in war, antagonism, at least as an expedition, as a mission that does not promise that at the end of that uncertain journey will be discovered what is sought and expected to be won ? This is because in its essence the director, in addition to his socially necessary utilitarian reasons for work, has the original impulse deep in his spiritual world expressed as inexplicable, unbearable and in a very unreasonable, deep emotional need for creativity and self-proof which over time grows into so-called creative hunger, that is, dependence on creativity. We should not forget that on that path many directors, instead of following the path of self-proof, get lost in the space of self-demonstration, which is a path that leads to ruin, because the one who calls himself an artist "should look for art in himself and not himself in art" as advised by Konstantin Sergeevich Stanislavsky.

Because of all this, the director must find ways to provoke, find, encourage and shape creative envy not only in him, but also in all other people who gravitate, live and exist in his creative world. And of course, in that sense to emanate the creative hunger of the screenwriters who express themselves in a certain work that they know that it is not canned art but form and content that is transformed from one form to another and that the ultimate goal of film art is not to realize, record, produce a certain script - but a certain film, and the script at the end of that long, syncretism and complicated process to: cease to exist. Those screenwriters who will understand this kind of self-publishing process become successful in the profession and their screenplays are sought after by many directors and producers and their films experience artistic and financial success. "Many times, writers choose to join forces just to avoid negative feelings and insecurity. Sometimes necessity dictates

cooperation. For "The Lord of the Rings", Peter Jackson, Fran Walsh and Philippa Boyens collaborated because "the writing part was related to how much time they had available". In the beginning, before we started filming, we wrote the script together - we would sit in the same room and write scenes. I (Peter Jackson) would sit at the computer and write because in the end I was the person who had to go and direct the film, which meant that if I wrote the descriptive passages, it would be the first opportunity to imagine the film in my head. Fran writes the dialogue on stage. Philip does the same thing, but on her laptop. Then I sit down, take the dialogue and write the descriptive paragraphs around the dialogue. I think as a director, not as a screenwriter. And after I move on to filming, we revise the script while the frame is being shot. (Field Sidney, p.277, 2005.) Seen from the point of view of screenwriting as a separate profession in cinematography, which has been separated even as a separate science of how to write screenplays for a film other than filmology, then the idea of a film is what is called a synopsis. Writing or creating a movie synopsis is a standardized procedure that determines everything that should be included in that phase of the script. The synopsis as an idea for the future film should clearly answer the so-called five basic and most important questions that create the future story.

1. Who does?
2. What does he do?
3. Where does he do it?
4. When does he do it?
5. Why does he do it?

To these five questions should be added one more:

6. How does he do it?

Today, film is becoming more complex not only in its narrative and structure, but also within the content of the actions that the characters or dramatic situations they enter into, especially in the films of the science fiction and applied technology genres. At universities, students learn that if they answer those questions then they can be said to have a movie, or a movie story. And in most cases it is. This structure,

content or narrative of the film story allows all circumstances, place and time of action, characters and their behavior, their inner life, conflicts with other characters and all twists to be clearly and logically understood by any average viewer with elementary education, without difference of its general awareness, social, political, religious or cultural origin. This structure of the script created according to a scheme, table or matrix is the most massive and most generally accepted understanding and practice of screenwriting and the profession of screenwriter. Apart from universities and various film schools almost all over the world, this system is accepted and supported by the study, by the productions, the world film funds, the state and regional agencies for financing the cinematography, as well as by almost all film and television festivals that in the last two decades apart from the usual film program, offer a variety of workshops for writing and developing screenplays. And that predominantly European system is complicated and limits any attempt to be separate and out of the scheme. There are different lobbies, groups, castes, internal organizations, festival rules and other forms of protectionism, selection, elitism and divisions based on who comes from which country with what financial power, but also divisions into national, regional, racial, religious, political, social and sexual affiliation. Through that system, many things are guaranteed and even success, if the scheme is followed. As in all other film processes, here the advancement and development is a matter of personal feat, which in order to be realized, one has to go through all those high stairs and dark corridors that lead to the final goal - a script and with it a feature film. Should this system be accepted? At the moment, this is the only path in Europe for film as an art and film industry as a business, especially in the European Union where there is a complex and cumbersome system of applications in agencies, funds and other organizations that finance film production. After all that has been said so far, I consider this system a necessity that should be followed if it can no longer be changed, because at this moment this is the only a path that directors, especially in Europe, can take, and it presupposes opportunities for some of them to reach the set goal. Of course there are exceptions, but here we look at the

rules. "No one sells a screenplay in Hollywood without the help of Reader." I hate to be the one to tell you this, but in Hollywood, "nobody reads"; producers don't read, directors don't read, actors don't read. Readers read. There's a built-in script filtering system in that city. Everyone says that they will read your script over the weekend, which means that they will let someone read it in the next few weeks: reader, secretary, receptionist, wife, girlfriend, assistant. If that Reader says he likes the script "then it is handed over to a creative executor, who will take the script home over the weekend to read it." (Field Sidney, p.98, 2005.)

The different masters, the different ways. It really is so. Although screenwriting a film is already considered a standardized process in which all stages evolve and lead to the ultimate goal - filming, the fact remains that screenplays are produced in three basic ways.

1. The screenplay is written by one or more screenwriters, without the director of the film being involved in any stage of writing.
2. The screenplay is written by one or more screenwriters and in certain phases or during the whole process, the director participates in the creative and technical part only as a director or as a screenwriter or co-screenwriter.
3. The director is the screenwriter himself, i.e. the author of the whole screenplay or most of it.

There are many examples in which the first principle of writing a script at the end of the process ends up in production and in most of those scripts it is a huge showcase of titles that are produced during a year in all parts of the world. From studio, co-production, international and independent film projects to film adventures of enthusiasts who enter the world of film and industry at their own expense and work. The list of successful films will be long, mainly as a product for the market where at the popular "box office" they have achieved astonishing numbers and are produced according to this standard. What does this look like?

Usually one or more screenwriters work on one script, in one idea, and in all its phases, in which a producer or even a studio can be involved, those screenwriters

write the script from the beginning to the end, for which an additional director is required, for whom the producers think he has affinities, knowledge, qualifications and previously had success on television or in independent productions, and of course that very important ingredient of things - personal relationships and happiness, so he will be given the finished script to direct. According to this principle, hundreds and maybe thousands of movies are produced in the world for cinema, television, platforms and DVDs. The director in such productions is a performer, a craftsman who offers his qualifications, competencies, knowledge and skills on the market of the film industry. This is the rule, and in it is sometimes possible for a film produced as part of a seasonal film plan for studios and productions without artistic ambitions to be separated from all others and to elevate the author or authors screenwriter and director high in the starry Hollywood sky, which is the essence of Hollywood. ``Welcome to Hollywood, what is your dream !? Everyone comes here! This is Hollywood, the land of dreams, some dreams come true and some do not. This is Hollywood, always with time for dreams, so keep dreaming! (Lawton Jonathan, Beautiful Woman, Touchstone Pictures, 1990.)

Can you now, as you read this, remember who won the Oscar for Best Original Screenplay at last year's "world film festival awards"? Probably not. Why is that?

Let's go back to the beginning. The movie script does not exist. The screenplay is not a work of art. The screenwriter is not the author. Then why does it exist and, more importantly, why insist on such a system of script production? Because scripts are what essentially drive mass production and the film industry. A clear distinction needs to be made between the production of films as industrial products for mass consumption and the making of films as works of art. The industrial production of films is realistic to be compared to the industrial production of anything, so in that sense we are not at all interested in who is the author of the heels for the best-selling model of Gucci shoes or who is the author of the design of the pockets of the new "Dolce & Gabbana" suit or who is the author of the design of the headlights of the highest class of the model C of the Mercedes Benz car, for example.

The film was created as a consequence of a person's need to tell a story with the possibilities of moving images, i.e. images that are arranged in a sequence in which the real world is preserved, as it is. In the beginning, more because of the euphoria caused by the technological advancement, that one man was faced with the challenge of showing the possibilities of that invention. But the possibilities of the new art were recognized very quickly, which, yes, due to its nature is applied, i.e. the film is an art that in order to produce it must use various, very often complex technology, but in the end, things come down to that all that industrial power to serve as how to tell a story about a one person. That's all. And except in very rare cases where that story was told by two, most often brothers, that revival of a fictional life in the form of a movie story was the work of a person who was a screenwriter, director, production designer, actor, editor, composer, investor and producer, in a one sequences - a movie maker. Today, these are different film professions that specialize and are even studied as separate disciplines, at separate universities, and some as a separate type of art or science. Thus, there are special universities where only acting is taught, only costume design, only acting, only music and only film production, and most of all, there are schools and universities where film script writing is studied. Although other film professions and departments are taught in their curricula, they are still understood superficially, most often as a need for students and future screenwriters to be only informed with other film segments. And here the biggest problems arise because students and future screenwriters do not understand that their profession is something between "this and that" as Jean-Claude Carrier write in his book. Most screenwriters do not know, or in the best case scenario knows little bit about film technology and the film production process. The screenwriters consider their work done by accepting the latest version of their script as a final draft. And they are leaving on their way to a new scenario to a new final draft. But in reality, the birth of the script begins the moment that final draft is determined and the scouts begin, searching for locations adequate to those described in the script or building a studio where the action described in the script will take place. Adapting the script

according to the real possibilities of the location chosen as the place where the whole or part of the film will be shot is a process that is traumatic and painful for the director who is also a screenwriter, and unknown and incomprehensible to most screenwriters who never come on preparation on the set or in the studio when production process start. And any screenwriter who is not aware of this total transformation from "this to that" would be better off not being part of the production process because at each subsequent stage, what they deposited with the producer as a final draft, page per page, scene after scene, line after line turns into something completely different. Most screenplays against the greatest films of all time, from "Citizen Kane" by screenwriter Herman Mankiewicz to "Gladiator" by screenwriter David Franzoni, who wrote the first version of the screenplay in 1970 and After many versions and screenwriters, the film began filming in 1999 when actor Oliver Reed, played by one of the main protagonists in the film The Gladiator Lord Proximo dies on set in Malta, there were countless changes, adaptations, inversions, cuts and correspondences by of the director and his assistants and closest collaborators. And all this is done in order for "this to turn into that". Eventually, when the film is finished, it enters the editing process where new changes, adaptations, inversions, cuts and additions take place so that "this" can finally move into "that" and "this script" cease to exist. Hence, it seems to me legitimate to ask the question where the script begins and where it ends or more precisely from where to where, in what part, in what way and how much the screenwriter can understand and apply as a separate profession with a separate professional in the form of an author. These are the real dilemmas for the screenwriting and the screenwriters as authors of something that is art in itself. My understanding is that the screenwriter is just one of the director's collaborators following the example of the director of photography, the editor, the costume designer, the set designer or the composer. And that's all. Just as the art of the cinematographer, editor or designer of clothing or props does not exist in itself, so they do not exist as separate authors and screenwriters. In any case, in the film even the actors are not considered authors of a work of art, but only performers, not in the

ugly sense of that phrase, which in each case confirms the film as the art of one person - the director as a film maker. "A good script is what makes a good movie. When there is a movie, the script is gone. That, without a doubt, is what is least seen in a finished film - that first form, obviously finished in itself, and yet called to reshape, to disappear, to melt into another form, this time finished." (Carriere Jean - Claude , p. 135, 2003.)

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AN OVERVIEW OF TRANSPOSABLE ELEMENTS IN PLANTS**Dekova T.H.**

PhD, assist. prof.

Tel.: +359 879 453 679; e-mail: dekova@biofac.uni-sofia.bg

Author ID: 650582646;

Sofia University „St. Kliment Ohridski”, Faculty of Biology, 8 Dragan

Tzankov Blvd., Sofia, 1164, Bulgaria

Georgieva D.G.

PhD, assist. prof.

Researcher ID: AAL-2547-2021; Author ID: 56414534600;

ORCID: <https://orcid.org/0000-0002-5931-2426>;

Tel.: +359 886 576 723; e-mail: d.georgieva@biofac.uni-sofia.bg

Sofia University „St. Kliment Ohridski”, Faculty of Biology, 8 Dragan

Tzankov Blvd., Sofia, 1164, Bulgaria

Kitanova M.L.

PhD, assist. prof.

Researcher ID: AAT-8643-2020; Author ID: 6504571992;

ORCID: <https://orcid.org/0000-0002-6730-7387>;

Tel.: +359 898 701 329; e-mail: m.kitanova@uni-sofia.bg

Sofia University „St. Kliment Ohridski”, Faculty of Biology, 8 Dragan

Tzankov Blvd., Sofia, 1164, Bulgaria

Abstract. *Transposable elements (TEs) are DNA sequences that move from one location to another in the genome. They are widespread among all phylogenetic groups of pro- and eukaryotes and represent from few to tens, or from hundreds to thousands of copy numbers per genome. As a result of long evolution and continuous*

diversification, TEs come in extremely diverse and confusing variety of forms and shapes. In plants TEs comprise a major fraction of their genomes; in some species, they contribute to more than 75% of the genome size. Their molecular structure, functions, and mechanism of transposition have a great impact on genome dynamics and evolution. Increasing the TE copy numbers results in increasing the size, complexity, and instability of the genome. TEs are associated with large-scale chromosome rearrangements as well as they affect the expression of the individual genes. Moving within genomes and depending on the site of the insertion they can modulate the rate of gene expression, alter the coding capacity of the gene, or change its chromatin modifications. Also, TEs serve as a rich source of novel mutations on which selection can occur and contribute to gene evolution and phenotypic diversification. The significant role of TEs on genome organization and evolution has been predetermined by Barbara McClintock who discovered them in maize in the 1940s and was awarded The Nobel Prize in 1983. In this paper, we review some fundamental properties of the major types' transposable elements in plants, which are crucial for understanding their impact and consequences for the organisms.

Keywords: *transposable element, TE, control element, inverted terminal repeat, plant, gene expression, chromosome rearrangement, evolution*

Introduction. Transposable elements (TE), also known as are mobile genetic elements (MGE), are DNA fragments that can change their position within genomes. They are found in virtually all organisms and make up the majority of their genomes. TEs are the main contributors to genome plasticity and thus are likely to have a dramatic impact on genetic diversity and speciation [1]. In plants, they make up nearly half of the total amount of their DNA and influence the gene structure and expression resulting in phenotype variations. The movement of TEs within genomes generates mutations by interrupting or modifying the gene regulation or the gene coding capacity, and chromosomal rearrangements by recombination between TE copies located at different chromosomal regions [1, 2].

For the first time TEs are described by Barbara McClintock as unstable, often mutated genetic loci in the maize. She pointed out that the mosaic phenotype of grains due to chromosome breakage, which is a result of the changed position of certain chromosomal segments. To denote the genetic structures which can move within the genome, B. McClintock [3, 4] introduced the concept of jumping genes or genetic control elements. Now they can be defined as DNA sequences that autonomously control their own chromosome "excision" and "incision" from one into another site in the chromosome [5] and do not have their phenotypic expression but can suppress or induce the emergence of a new genetic effect in the organism. In "The Significance of Responses of the Genome to Challenge" published in 1984 McClintock reveals the story about the discovery of the TE, which has raised the issue of a qualitatively new, different type of gene regulation [6].

Main characteristics of the plant transposable elements

TEs are common in the plant genomes [7, 8, 9] and are well studied in corn, wheat, tomatoes, potatoes, tobacco, petunia, rice, peas, etc. These elements are unstable DNA sequences with some main properties: (1) they are bounded by a duplicate DNA sequence of a certain length (usually of several nucleotide pairs) in the site of insertion into the genome; (2) they have direct or inverted repeats at the 5' and 3'-ends, which are recognized in the process of transposition; (3) they do not have own phenotypic expression, but they can alter the expression of genes in or near to which they integrate suppressing, enhancing or inducing a new genetic effect; (4) their movement in the genome is characterized by their genomic inclusion and exclusion; the inclusion in the genome is not subjected or determined by specific selectivity; (5) they have a non-replicative type of transposition; (6) they act as mutagens, as their behavior is the genome leading to various mutation processes; (7) their transposition is an enzyme-dependent process that occurs at different frequencies; (8) they cause chromosomal breaks at the site of their insertion.

Classification of transposable elements

Many and different plants' transposable elements are known today. Every TE in a genome can be affiliated to a family, superfamily, subclass, and class [10, 11, 12]. According to its mode of transposition, TEs are divided into two major groups: retrotransposons (class I) and DNA transposable elements (class II), which are subdivided into subclasses based on the mechanism of chromosomal integration [6, 13, 14]. Class I elements mobilize through an RNA-intermediate that is reverse transcribed in a “copy and paste” mechanism and class II are mobilized via a DNA intermediate, mainly through a ‘cut-and-paste’ mechanism [6, 13]. Each TE subclass is further divided into superfamilies, which share structural and sequence similarities at the DNA and protein levels [14, 15]. At the most detailed level of the classification, elements are grouped into families – a closely related group of elements that are descendants of a single ancestral element [10, 16]. Within this broader classification, TEs can be described as autonomous and non-autonomous elements. The autonomous element can be described as those having the ability to self-mobilize and non-autonomous elements is relying on co-mobilization by the enzymatic machinery of autonomous TEs [12, 13]. In class II the non-autonomous elements in the families are deletion derivatives of their autonomous counterparts [13].

A well-studied TEs families are *Ac/Ds* (*Activator-Dissotiator*) [17, 18, 19, 20, 21], *En/Spm* (*Suppressor-Mutator*) [19, 22, 23, 24], *Mu* or *MULE* (*Mutator-like element*) [25, 26, 27], *Dt* (dotted) [28], *gypsy-like* and *copia-like* retrotransposons [29, 30, 31], *FT* (*Foldback*) [32, 33], *MITES* (Miniature inverted-repeat transposable elements) [34, 35], etc.

Structure and function of *Ac/Ds* element system

Ac/Ds (Fig.1) is the best-studied plant mobile genetic family. It consists of transpositionally competent, autonomous element (*Ac*) and transpositionally incompetent, non-autonomous elements (*Ds*) [36, 37]. *Dissociation* or *Ds* elements

are named after their ability to cause chromosomal breaks at the site of the insertion during the plant development [4, 38]. *Ds* initiate chromosome breaks only in the presence of the *Activator* or *Ac* element. The autonomous *Ac* element is 4563 bp long and contains ~240 bp subterminal repeats and 11 bp terminal inverted repeats (TIRs) at each end [37]. The subterminal repeats at both *Ac* ends contain TPase-binding sites that are essential for the transposition of both *Ac* and *Ds*. A single transcription unit of 3.5 kb, designated as the open reading frame α (ORF α), occupies almost its entire length and encodes an 807-amino acid transposase (TPase) protein [37, 38, 39], that binds to the specific TPase binding sites and transpose the element within the genome [40, 41].

Ds elements are structurally heterogeneous group derived from the *Ac* element by deletions (Fig.1) [37, 42]. For example, the *Ds9* control element is 4 kb and originated from the *Ac* element through a symmetrical internal deletion of about 0.2 kb (194 bp) in exon 3 of the *Ac* transcription unit [43]. *Ds2* has an internal deletion of 1312 bp in exon 2. More complex structures can be generated by the insertion of one *Ds* element into or near another *Ds* element [44, 45, 46]. The double *Ds* elements have two 2 kb elements inserted into an identical copy of itself, where the two elements are in opposite orientation relative to one another [44]. The *Ds1* has a very small sequence homologous to the *Ac* element. Some authors describe unusually large *Ds* elements – over 30 kb [46]. Although the variations, all *Ds* elements have 11 bp TIRs, identical to *Ac* element repeats.

Ac and *Ds* elements are capable of inducing chromosome breakage, as well as large-scale structural rearrangements such as chromosome deletions, inversions, and translocations [45, 48]. Both elements preferentially insert into gene-rich regions and affect the gene regulation mechanisms in a variety of ways including the spatial or temporal regulation of gene expression [37, 49, 50]. Thus, they contribute to macroevolution through insertions into promoters or coding sequences and affect gene function. For example, the insertion of *Ds1* into the *R-sc* gene results in the encoding of two stable proteins. In addition, the excision of *Ds1* affects new *R* alleles

that encode cytoplasmic proteins or nuclear-localized proteins by insertions into HLH domains. All described deletions impart transposition defects to the respective control element, inability to move provided that the element encoding the gene product is a regulatory element of transposition [51].

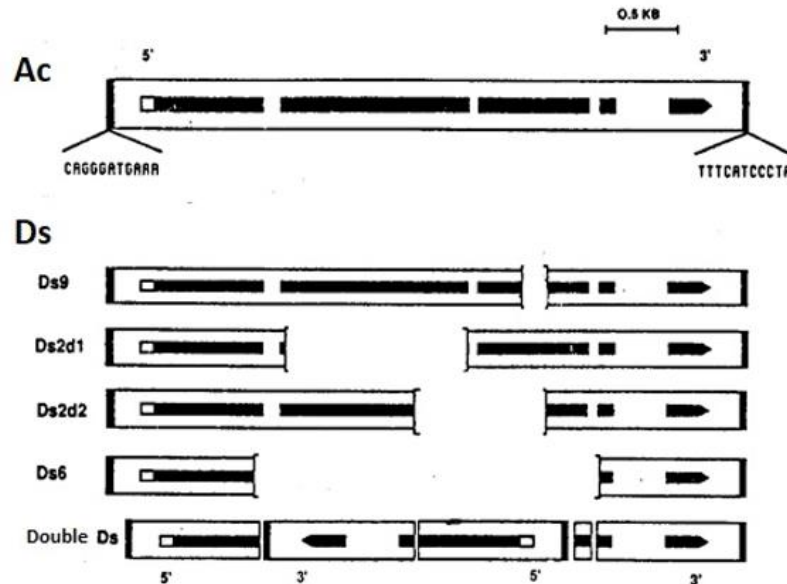


Figure 1. Structure of Ac element and some Ds elements [47]

Molecular structure and function of the *En/Spm* element system

The *En/Spm* transposable elements were originally identified in *Zea mays* by Peterson as *Enhancer* (*En*) [52, 53], which subsequently was shown to have identical structure and function to *Suppressor-mutator* (*Spm*) [22, 24, 54, 55]. Like the *Ac/Ds*, this system is comprised of two components – autonomous and non-autonomous elements. The component *En/Spm* is capable of autonomous transposition and encodes all functions associated with the system. The second component – designated as *transposition-defective Spm* (*dSpm*) or *Inhibitor* (*I*) (*I/dSpm*) is the non-autonomous element, which is unable to promote transposition but can be trans-activated by an *En/Spm* element present in the same genome [22, 24].

The *Spm* element is 8287 bp in length and superficially simple in an organization (fig.2). It has a single transcriptional unit that occupies most of the

element's length and flanked by a subterminal repeat region of several hundred base pairs. It contains multiple copies of a repeated sequence essential for both transcription and transposition of the element. At the very ends 13 bp inverted repeats of a short sequence, CACTACAAGAAAA, demarcate the segment of DNA that transposes. The promoter is contained within the first 0.2 kb at the element's left end and is coextensive with the subterminal repetitive region [55, 56]. A 0.35 kb downstream sequence is highly GC-rich and a target for methylation. The methylated sequences prevent the TEs from both transcription and transposition.

The *I/dSpm* elements are deletion derivatives of the autonomous element *En/Spm*, carrying identical termini but with internal deletions of the varying extent [23, 52, 54, 57]. McClintock found that *Spm* could both promote excision of an *I/dSpm* element from a mutant gene and change its phenotypic expression [55]. All *dSpm* elements were cloned and analyzed as structurally compatible with their *Spm* element derivatives and are characterized by having more than one internal deletion [58].

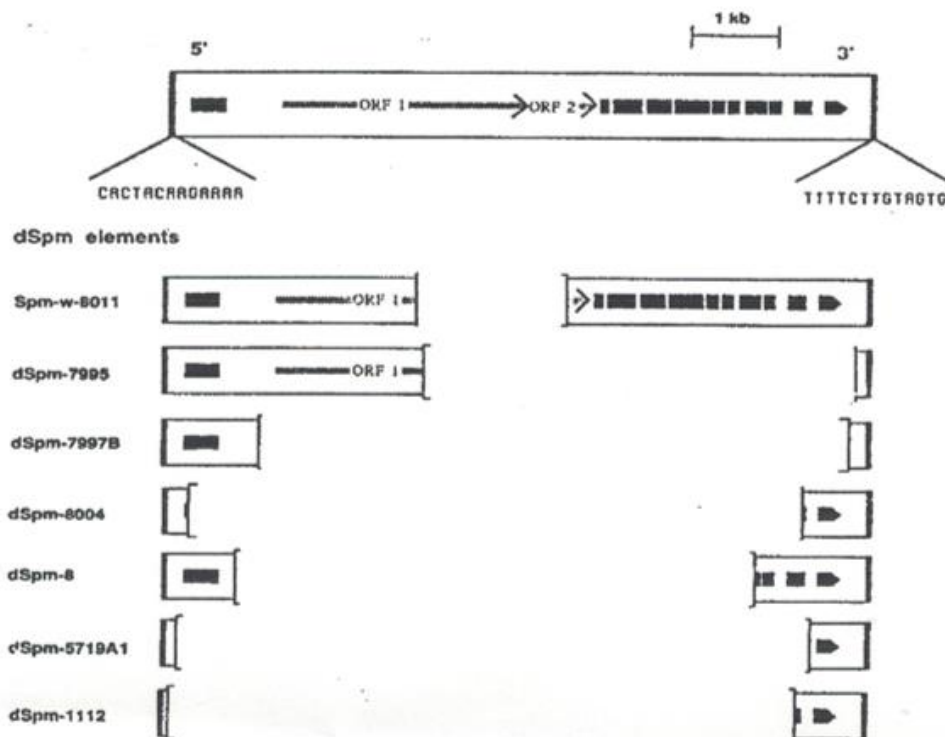


Figure 2. The structure of *Spm* and its deletion derives [47]

The transcription unit of the *Spm* element starts at 209 nucleotides at the 5' end and finished in a polyadenylated region about 0.4 kb from the right 3' end [23]. The primary transcript is alternatively spliced, yielding few mRNA sequences with different open reading frames (ORFs), some with extensive overlaps. The first identified transcript designated as *tnpA* is the shortest – about 2.5 kb and encodes a TNPA protein [23, 55]. It is the element's most abundant transcript, being 50-100 times more abundant than any of the other transcripts [59]. Each transcript has one unique ORF and it is this coding sequence that has been given the transcript's name. Two of the transcripts encode two proteins necessary for transposition, TnpA, and TnpD. Together they are necessary and sufficient to mobilize *Spm* and *dSpm* elements [60, 61]. TnpD is responsible for correct cleavage of the transposable element ends [60], but it does not bind *Spm* directly. TnpA binds to subterminal repeats and mediates the binding of TnpD with the *Spm* element promoting the transposition [55]. There are multiple TnpA binding sites, both in the 5' terminal promoter region and at the element's 3' end.

***MULE* and *Uq* transposable elements**

Mutator-like transposable elements (*MULEs* or *Mu*) are found in many eukaryotic genomes and are especially prevalent in higher plants [26, 62]. They are class II genetic control elements and were identified for the first time by Robertson in maize [10, 63, 64]. Subsequently, they are found to be widespread across fungal, plants', animals' and protozoans' species [30]. The typical structure of *MULEs* includes long TIRs (above 100 bp) and 8–10 bp flanking target site duplication (TSDs) that is generated upon insertion by the action of transposase [26, 65]. The TIRs are highly conserved in *MULE* elements and are thought to be recognized by the *MuDR*-encoded transposase whereas each distinct element class is defined by its unique internal sequences [66, 67]. Non-autonomous *MULEs* often carry various sequences between their TIRs including fragments of host cellular genes and such chimeric elements are called Pack-*MULEs* [26, 62].

Phylogenetic analyses divide the *MULE* superfamily into several major families, each of which is found in many copies in the genome [68]. *MuDR*-like elements are autonomous elements and carry two open reading frames, *mudrA*, and *mudrB*, the former coding for a transposase. There is also a group of *MULE* autonomous elements *Jittery*, carrying only *mudrA*-like ORF [69, 70]. *MULE* also consists of many types of non-autonomous elements as *Mu1*, *Mu2*, *Mu3*, *Mu4*, *Mu5*, *Mu7/rcy*, and *Mu8*, all having terminal inverted repeats that are recognized by the *MuDR*-encoded transposase [66]

Mutator-like elements have had a significant impact on the evolution of plants. They are among the most mutagenic transposons, due to their very high rates of transposition and their bias for inserting near or close to genes, and tendency to acquire host gene fragments [27, 68]. The original *Mutator* element (*MuDR*, ‘Mutator Don Robertson’), described by *Robertson* in maize has high transposition frequency and is widely exploited for gene tagging and mutagenesis in maize [27, 63].

The *ubiquitous (Uq)-responder to Uq (rUq)* transposable system (*Uq-rUq*) is the most widely dispersed among different maize populations [71, 72, 73]. The *Uq-rUq* system shares some functional activity with the *Ac/Ds* system, which may be explained by a degree of sequence homology between *Uq* and *Ac* [73]. Search for *Uq* in assorted maize genetic and breeding lines has led to the isolation of some *Uq* elements. The *Uq* family consists of two components: *Uq* is an autonomous element, and *rUq* is a non-autonomous element. There is some similarity in the structure of the *rUq* and *Ds1* elements of the *Ac/Ds* family, especially in the terminal inverted repeats.

Dotted two-element control elements system

Dotted is a two-element system of controlling elements consisting of the *Dotted element (Dt)*, and a second receptor element for *Dt (rDt)*. The elements are discovered by **Marcus Rhoades** in 1938 in maize when he observed a dihybrid segregation ratio of 12:3:1 (pigmented : dotted : colorless) in a pure breeding line progeny [18, 28]. *Dt element controls its transposition, as well as the expression of*

several alleles of the anthocyanin locus A_1 , that is necessary for the biosynthesis of anthocyanin pigment [28]. The A_1 alleles – a_1 and $a-m-1:Cache$ are standard recessive alleles in the absence of Dt . Their recessive phenotype is explained by the rDt insertion within their coding sequences. The rDt element is 704 bp long and has molecular characteristics typical of other maize controlling elements Ac , Ds , and Spm . Sequence analysis revealed the rDt element is identical (>80% homology) within the two mutable alleles, but are inserted in opposite orientations and different exons of the gene A_1 . The ends of the insertions contain 11 bp imperfect terminal inverted repeat with similarity to transposable elements of various species. Duplication of 8-9 bp of the target host site is formed upon integration of the element, and the element is excised from the locus in a germinal revertant [28].

Plant Foldback transposable elements

Foldback transposable elements (*FTs*) are a large and heterogeneous group of elements that vary considerably in size and structure [32]. For the first time, they are described in *D. melanogaster* and took their name from the Foldback element of this species [74, 75]. Subsequently, similar elements are described in several other organisms. First plant FT elements are identified in several species of *Solanaceae* and are named *SoFT* (Solanaceae Foldback Transposon) [32].

All FT elements share some common structural features that distinguish them from the other class II TEs. They contain very long TIRs that usually extend along almost the entire element and are separated by a middle segment (M) of variable length and composition. When denatured, the two TIRs of the element fold back and pair, giving rise to a stable stem-loop secondary structure that inspired TEs name [76]. Each TIR contains two possible different sequence domains – an outer domain composed of a series of tandemly arranged subrepeats and an inner domain with unique, non-repetitive AT-rich sequence [32, 33]. Like most transposable elements, FTs are flanked by two 6 short direct repeats generated by the duplication of the sequence at the target site.

The first family of foldback TEs identified in *Arabidopsis thaliana* is named *Hairpin*. The family members identified to date are highly homologous but differ from all previously described mobile elements in *Arabidopsis*. The most striking feature in their structure is that the left half of each element is almost a perfect inverted repeat relative to the right half. Therefore, each element can fold back to form a stable hairpin structure separated by a short middle segment of 6–7 bp [33]. Lately, new FT elements are identified: *FARE* in *Arabidopsis thaliana* [77], *Tnr-8* in *Oryza glaberrima* [78], and *Folbos* in *Oryza sativa* L. [79].

The existence of *Foldback* elements in plants and animals suggests that long inverted repeat transposons are ubiquitous among eukaryotes. At the functional level, *Foldback* elements are characterized by their capacity to induce genetic instability and recombination processes, leading to the generation of spontaneous mutations and chromosomal rearrangements.

Wheat retrotransposon families

Large cereal genomes are known to consist of an extraordinary number of transposable elements, in particular long terminal repeat retrotransposons (*LTR* retrotransposons) [25, 80]. *LTR* retrotransposons are one of the fourth subclasses of the class I TEs that transposed within the genome via an RNA intermediate [10]. In wheat, barley, and maize they occupy up to 80% of the nuclear genome and are often found in different densities or copy numbers among individuals of the same species [80, 81, 82]. Studies in maize, rice, and other organisms suggest low-copy-number *LTR* retrotransposons accumulate mainly gene-rich regions with high recombination rates while the high-copy-number *LTR* retrotransposons preferentially accumulate in gene-poor and recombination-poor regions like pericentromeric heterochromatin [83].

The structural organization of *LTR* retrotransposons is similar to that of retroviruses except for the absence of the envelope (*env*) gene. A key feature is the presence of long terminal repeats (LTRs) of variable size at both ends of the internal coding region. The both LTRs contain one or more open reading frames (ORF) that are transcribed using host machinery and code for some enzymes such as the aspartic

proteinase (AP), reverse transcriptase (RT), RNase H, and integrase (INT) necessary for the retrotransposition [84, 85].

In 1987 Harbert et al. [86, 87] reported the discovery of the first retrotransposon in wheat – *WIS 2-1A* (EMBL–GenBank–DDBJ accession No. X63184). This is an 8 kb DNA insert within a silent allele of the high-molecular-weight (HGW) glutenin gene *Glu-A1y*. It is isolated from the variety Chinese Spring but not found in the same location in the variety Cheyenne, indicating that the insertion of *WIS 2-1A* silence the host gene [85, 86, 87]. Latter analyses identified sequences related to *WIS 2-1A* in other *Triticeae* genomes [88] and were estimated to be present in 200 copies per haploid genome of hexaploid wheat [89]. A similar sequence is identified in structural mutant wheat lines of *Sphaerococcum* also [90]. All data indicate that *WIS 2-1A* is an ancient element, probably present in the unknown common ancestor of the *Triticeae* and it is a non-active retrotransposon that can be trans-activated only under rare circumstances [87, 88].

WIS2-1A has the characteristic structure of retrotransposons. It contains an internal domain of about 5100 bp, flanked by LTRs of over 1755 bp in length. The two LTRs differ from each other by four transitions and two transversions. Additional 5-bp duplications imperfect inverted repeats of six nucleotides in opposite orientation flanked the element in the site of insertion in the HMW glutenin gene and has nucleotide sequences: 5' TGTTGG. . . . CCTACA 3'. These are characteristic of retrotransposons and probably play a role in the process of integration into the host chromosome [85, 89]. Sequences similar to integrase and reverse-transcriptase genes were found in the internal domain [89].

Miniature inverted-repeat control elements

Miniature inverted-repeat TE (MITEs) are a group of small transposons, identified in sorghum and maize. They belong to the class II non-autonomous DNA transposons but have characteristics that distinguish them from the other non-autonomous elements in the class. *MITEs* are TE associated with the noncoding regions of plant genes [91]. They are found primarily between genes, some in introns

but never find in exons or retrotransposons. *MITEs* do not encode any transposase (TPase) and their classification has been based on their TIR and TSD sequences.

The *MITE* family is characterized by very high copy number (up to several thousand copies), structural homogeneity, and phylogenies that are consistent with rapid and extensive amplification of one or a few ‘master’ copies followed by inactivity and drift [91, 92, 93]. In most plants *MITEs* fall into one of the two superfamilies – *Tourist*-like or *Stowaway*-like based on their similarity to two elements originally identified in maize and sorghum, respectively [50, 93]

The activity of the transposable elements and state of DNA methylation

Retrotransposons and other mobile elements constitute a large fraction of the repeated DNA in higher-plant genomes. They make up over 37% of the human genome (3109 bp) and often are methylated. In maize, TEs are about 50% of the genome (5109 bp), where 80% of them are methylated [25]. DNA methylation is important for the regulation of gene expression. The active transposon elements are highly mutagenic and play a significant role in higher plant genome evolution. Methylation of TEs keeps them inactive. Maize transposons may lose their activity during somatic development and gamete formation. The loss or change in their transposition activity is the result of a change in their DNA sequence or the methylation [6, 19, 47].

In plants, TEs are "targeted" for methylation by transposon-specific mechanisms. Transposition activity can be spontaneous as well as induced by genomic stress. The cytosine methylation of DNA is associated with two effects. First, DNA methylation correlates with the activity of transposon elements. The methylation of gene promoters causes a decrease in the binding capacity of RNA polymerase II, limiting the initiation and/or elongation of transcription. Thus, the methylation affects the expression of transposon-encoding genes and inhibits the transposition and reorganizations in DNA by transposons. Second, DNA methylation correlates with the decrease of recombination between methylated regions. The methylation of repeated sequences at different genomic locations suppresses

recombination between them. So, the methylation inactivates active elements. This condition can remain for several cell cycles or generations. This kind of inactivation is reversible in contrast to deletions which leads to the permanent inactivation of TE (such inactivated elements are unable for own transposition, but can be mobilized in the genome in presence of autonomous element).

DNA methylation is one of the key regulators of gene expression, which changes the chromatin structure. The DNA methylation masks the effects of TE insertion by mechanisms that do not depend on transposition regulation or direct transcription regulation. Methylated TE remains "hidden" from the genome by interacting with various chromatin factors, some of which mediate DNA methylation [94]. The transposition is not the reason for the observed mutant phenotypes, but the genetic control of methylation influences the process. Activation of TE after genomic stress has similar behavior, where the inactivated compound becomes a spontaneous reactivation of transposon function. Genomic stress and the activation of permanent "dormant" control elements, as well as the dose-effect and regulation of transposition during plant development, are problems that are not fully understood. It is not clear whether methylation is a cause or a consequence of the inactivation of the control element. The frequency of transposition is controlled by the degree of methylation [94].

Transposable elements and genome evolution of plant

Transposable elements constitute a structurally dynamic component of genomes and are a key source of variation as a major contributor to genome evolution [95]. TEs cause a broad array of changes in gene composition and function. These changes range from simple insertional mutations to genetic reprogramming, gene movement, and the evolution of novel functional protein-coding sequences [95]. In the absence of countering forces, genome expansion is an inevitable consequence of the properties of transposable elements [18]. The transcription of the retrotransposons, followed by insertion of reverse transcripts into the genome at new sites generates additional, new DNA. Also, plant DNA transposons generate

additional copies of themselves by excising from only one of two newly replicated sister chromatids and reinserting them into as yet unreplicated sites [18]. New copies of transposons and retrotransposons provide new sites of homology for unequal crossing over. Evidence that transposable elements are central to the evolutionary restructuring of genomes has accumulated in every organism. Exceptionally detailed examples of the role of transposition, retrotransposition, amplification, and transposon-mediated rearrangements in the evolution of a contemporary chromosome are provided by recent studies on the human Y chromosome [18, 96, 97]

Decades ago, the promoted idea that TEs are a major source of mutations and are important for evolution raised the hypothesis about TEs as selfish or even 'parasitic' DNA [98, 99, 100]. In contrast, numerous authors view the effects of TEs in ontogeny and also in the origin of species and higher systematic categories [4, 6, 34, 101, 102, 103] because of the extraordinary potential of TEs to generate mutations of all kinds: deletions, insertions, inversions, duplications, translocations, large-scale rearrangements [15, 100].

Origin of plant TEs

The two-component control element systems occur unexpectedly during cross-breeding when TEs originally located in different genomes gather in one providing the autonomous and non-autonomous elements. Also, the control elements may appear *de novo* or to be brought to an active state in the course of plant development which allows its phenotypic manifestation. In fact, TEs do not have their phenotypic expression but affect and change the functions of the genes in which they are integrated or located near them. They may change the properties of the protein products of the target genes or their transcription. This imposed a new revolutionary meaning on the changes dictated by such elements in eukaryotic organisms.

Under chromosomal stress, certain genetic factors can acquire an extremely new property – transpositional activity. For its realization, their ends have to have certain nucleotide sequences that favor transposition. The movement of such elements requires a regulatory space – a specific recombination system. It is assumed

that the autonomous or non-autonomous elements arise through changes in these primary genes. So what is the nature of the control elements? Are they being genes performing new functions or sequences with exogenous origin?

According to Fedoroff [18] the transposable elements of plants are derived from their viruses, animal viruses, or bacterial elements, as "gene flow" between different organisms. B. McClintock (1950) raised the idea that control elements are formed from heterochromatin [4]. Years later, the idea is enriched, and together with repetitive DNA sequences, heterochromatin takes part in the formation of control elements. Probably TEs arise from genes that fall into heterochromatin due to chromosomal rearrangements and so the control elements are permanently located in heterochromatin between satellite DNA sequences. TEs have a diverse and often complex structure, so it is difficult to imagine that they arise from random changes in common genes. For example, the *Spm* element has two promoters capable of independent inversion, a transcription terminator, and three structural genes – activator, suppressor, and mutator. Such a complex system can only arise as a result of prolonged evolution.

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THE IMPACT OF CORRUPTION ON THE ECONOMIC GROWTH OF EUROPEAN COUNTRIES

Honcharova V.O.

student of the Faculty of Economics
Ostroh Academy National University

***Abstract.** Even though corruption is correlated to political and moral degradation, there is no consensus on the impact of corruption on economic growth. Concern about the negative social and economic impacts of corruption has grown rapidly, and major international organizations consistently claim that corruption hinders economic growth. But corruption can affect resource allocation in two ways. First, it can change (mostly) private investors' assessments of the relative merits of various investments. This influence follows from corruption-induced changes in the relative prices of goods and services as well as of resources and factors of production, including entrepreneurial talent. Second, corruption can result in resource misallocation when decisions on how public funds will be invested, or which private investments will be permitted, are made by a corrupt government agency. The misallocation follows from the possibility that a corrupt decision-maker will consider potential "corruption payments" as one of the decision criteria. Although, theory leans to the view that corruption has negative impact on growth, still empirical evidence and counter arguments show that there might be positive implications for corruption. This paper examines the impact of corruption on the economic growth of European countries. The main purpose of this study is to increase understanding of the relationship between corruption and economic growth using spatial data. An attempt has therefore been made in the present study to understand the problem of corruption, inflation, foreign direct investment and value added through empirical*

evidence and to offer recommendations based on findings. A multifactor model was built for this purpose. It was also found that not all variables are suitable for testing how corruption affects economic growth

Keywords: *corruption, economic growth, value added, modeling, inflation, foreign direct investment*

Постановка проблеми. Корупція – безумовно, транснаціональне явище, одна з найбільших проблем, з якими стикаються уряди і політики усіх країн, незалежно від рівня економічного розвитку держави. Дослідники по-різному трактують це поняття, залежно від масштабів прояву. Адже корупція виникає на різних рівнях починаючи з моменту, коли працівник краде офісне приладдя, і закінчується на рівні загальнодержавних бюджетних програм. Одні вважають корупцію абсолютним злом, що знищує економіку та руйнує високі стандарти життя громадян, інші ж стверджують, що це допоміжний механізм у бізнес-процесах, необхідне мастило для змащення коліс складної бюрократичної машини, що допомагає уникнути надмірної зарегульованості та надає більшої волі бізнесу. Тому в даному дослідженні буде розглядатися вплив корупції на економічне зростання.

Аналіз останніх досліджень і публікацій. Ранні свідчення про негативний вплив корупції на економічне зростання на основі емпіричного порівняльного аналізу різних країн представлені у праці П.Мауро (Mauro, 1995). Аналогічні результати були отримані низкою дослідників (Wei, 1999; Meon and Sekkat, 2005; Gamberoni et al., 2016). У серії робіт можна знайти ґрунтовний аналіз літератури з цього питання (Svensson, 2005; Campos et al., 2010; Ugur and Dasgupta, 2011; IMF, 2016). Дані про негативний економічний вплив корупції також можна отримати з мікрорівневих досліджень (Svensson, 2003; Fisman, 2001; Fisman and Svensson, 2007).

Мета дослідження: використовуючи методи економіко-математичного моделювання оцінити вплив корупції на економічне зростання країн Європи.

Виклад основного матеріалу. Багато досліджень зосереджувались на встановленні того, чи корупція негативно впливає на економічне зростання, чи може вона мати позитивний вплив шляхом «змащення коліс» економіки.

Хоча існує загальний консенсус щодо того, що корупція негативно впливає на економічне зростання та розвиток, деякі дослідники продовжують стверджувати, що корупція може бути економічно виправданою, оскільки вона дає можливості обійти неефективні нормативні акти та тяганину, а також дозволяє приватному сектору виправити невдачі та неефективність уряду. Як такий, він може потенційно сприяти економічному зростанню, усуваючи бюрократичні бар'єри для в'їзду та знижуючи трансакційні витрати компаній, намагаючись дотримуватися надмірних норм. Меон та Секкат дають хороший огляд прихильників та противників такої гіпотези (Méon and Sekkat 2005) [1].

Деякі дослідження також стверджують, що шкідливий вплив корупції на зростання може бути конкретним контекстом і пов'язаний з такими факторами, як законодавча та інституційна база країни, якість управління, політичний режим тощо. Наприклад, кілька досліджень свідчать про те, що хоча корупція є стабільно шкідливою у країнах, де інституції ефективні, він може потенційно підвищити продуктивність та підприємництво у країнах з високим рівнем регулювання, які не мають ефективних державних установ та систем управління (Houston 2007; Méon and Weill 2008). Інші дослідження також припускають, що вплив корупції на ріст і розвиток також може бути специфічним для режиму і що тип політичного режиму є важливою визначальною у взаємозв'язку між корупцією та економічним зростанням (Méndez and Sepúlveda 2006) [2].

Відповідаючи на цей аргумент, деякі дослідження стверджують, що замість сприяння економічному зростанню корупція може пом'якшити вплив слабких інституційних та регуляторних систем. Наприклад, стаття 2011 року свідчить про те, що корупція збільшує рівень в'їзду фірм за наявності адміністративних бар'єрів для в'їзду.

В цілому, існує велика кількість доказів, які вказують на те, що, хоча корупція може сприяти зменшенню витрат, спричинених громіздкими адміністративними процесами в деяких контекстах, у короткостроковій перспективі, вона має довгостроковий згубний вплив на діяльність компаній та корозійну активність вплив на загальне середовище управління в країні, підриваючи ефективність та легітимність державних інституцій і, зрештою, підриваючи сталий розвиток та верховенство права [3, 4].

Після аналізу економічної літератури для дослідження даної тематики за показник економічного зростання ми взяли ВВП на душу населення. Це і буде результуючою ознакою. За факторні ознаки було взято індекс контролю корупції, який відображає уявлення про те, наскільки державна влада здійснюється з метою приватної вигоди, включаючи як дрібні, так і великі форми корупції, а також "захоплення" державою елітами та приватними інтересами. Також було взято показники доданої вартості, інфляції, прямих іноземних інвестицій. Всі дані були взяті за 2020 рік.

Перелік змінних:

gdp_per_capita – ВВП на душу населення (поточний долар США);

corruption_control – Оцінка управління (коливається приблизно від -2,5 (слабкий) до 2,5 (сильний) ефективності управління)

inflation – Інфляція, споживчі ціни (% у річному вираженні);

fd_investment – Прямі іноземні інвестиції, чистий приплив (BoP, поточний долар США);

value_added – Промисловість (включаючи будівництво), додана вартість (поточний долар США);

Для пошуку даних використовувались: Світовий банк відкритих даних (<https://data.worldbank.org/>) та для індексу контролю корупції було використано відкриту база Worldwide Governance Indicators (WGI) (<https://info.worldbank.org/governance/wgi/>) [5, 6].

Ділимо вибірку на підвибірки на основі першого, другого, третього перцентилів та середнього значення (на малі та великі значення).

Наступним кроком є нормалізація та трансформація даних. Після перевірки графіків розподілів кожної змінної можемо зробити висновок, що оптимальним способом трансформації змінних буде: для `gdp_per_capita`, `value_added` `inflation` – логарифмування, `fd_investment`, `corruption_control` – залишаємо без змін.

Наступним кроком буде тестування відмінностей у середніх для створених раніше підвбірок на основі великих та малих значень за допомогою двостороннього t-тесту та тесту Уїлкоксона.

За результатами t-тесту можемо зробити такі висновки: з рівнем значущості 99% коефіцієнт при змінній `corruption_control` статистично відрізняється від нуля, оскільки $t_p = |-8.6825| > t_{kp} = 2.0$. З рівнем значущості 90% коефіцієнт при змінній `lnvalue_added` статистично не відрізняється від нуля, оскільки $t_p = |-1.0456| < t_{kp} = 2.0$. З рівнем значущості 90% коефіцієнт при змінній `lninflation` статистично не відрізняється від нуля, оскільки $t_p = |0.8160| < t_{kp} = 2.0$. З рівнем значущості 97% коефіцієнт при змінній `fd_investment` статистично відрізняється від нуля, оскільки $t_p = |-2.2790| > t_{kp} = 2.0$.

За результатами тесту Мані – Уїтні можна зробити наступні висновки: з рівнем значущості 99% коефіцієнт при змінній `corruption_control` статистично відрізняється від нуля, оскільки $z_p = |-4.322| > t_{kp} = 2.0$. З рівнем значущості 90% коефіцієнт при змінній `lnvalue_added` статистично не відрізняється від нуля, оскільки $t_p = |-1.150| < t_{kp} = 2.0$. З рівнем значущості 90% коефіцієнт при змінній `lninflation` статистично не відрізняється від нуля, оскільки $t_p = |0.333| < t_{kp} = 2.0$. З рівнем значущості 90% коефіцієнт при змінній `fd_investment` статистично не відрізняється від нуля, оскільки $t_p = |-1.072| < t_{kp} = 2.0$.

Після проведення t-тесту та тесту Мані – Уїтні нам потрібно позбутись в моделі несуттєвих змінних. Для цього було використано *Stepwise variables selection*.

Після проведення початкової регресії для всіх змінних можемо зробити висновок, що модель має несуттєві змінні t-статистика яких менша за 1,67. Також бачимо наявність певних проблем в моделі, адже різниця між звичайним та скоригованим коефіцієнтом детермінації більша ніж 3%.

Після вилучення змінних *inflation* та *fd_investment* модель має кращий вигляд, різниця між звичайним та скоригованим коефіцієнтом детермінації стала меншою ніж 3% (2,32%).

Кінцевий вигляд моделі:

$$\ln gdp_per_ccapita = 4,43 + 0,75 \text{ corruption_control} + 0,20 \ln value_added$$

Для перевірки моделі на мультиколінеарність проведемо vif тест.

Variable	VIF	1/VIF
corruption~l	1.40	0.715018
lnvalue_ad~d	1.40	0.715018
Mean VIF	1.40	

Рис. 1. Результат vif тесту

Отже, розрахункове значення для змінних *corruption_control* та *value_added* не перевищують критичне, що дорівнює 4, тому можемо зробити висновок про відсутність мультиколінеарності.

Перевіримо змінні кінцевої моделі на нормальний закон розподілу.

Variable	Skewness/Kurtosis tests for Normality				
	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	joint Prob>chi2
lngdp_per~a	27	0.4698	0.1453	2.92	0.2326
corruption~l	26	0.6135	0.0247	5.17	0.0756
lnvalue_ad~d	25	0.4945	0.3811	1.34	0.5125

Рис. 2. Перевірка на нормальний закон розподілу

Оскільки $(\text{Prob} > \chi^2) < 0,05$ для усіх змінних, то з ймовірністю допустити помилку 5% можемо зробити висновок, що усі змінні розподілені за нормальним законом.

Наступним кроком є перевірка модель на гетероскедастичність. Для цього проведемо Breusch-Pagan / Cook-Weisberg test на гетероскедастичність.

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: corruption_control lnvalue_added

chi2(2)      =      1.69
Prob > chi2   =      0.4293
```

Рис. 3. Breusch-Pagan / Cook-Weisberg test

Отже, з ймовірністю допустити помилку в 5%, оскільки p-value більше за 0,05 ми приймаємо нульову гіпотезу про відсутність гетероскедастичності в моделі.

Висновки та перспективи подальшого розвитку. Після проведеного дослідження було виявлено, що не всі обрані змінні впливають на результуючу ознаку (ВВП на душу населення). В кінцевому результаті для побудови моделі було обрано 2 змінні: оцінка контролю над корупцією та логарифмована додана вартість.

Кінцевий вигляд моделі:

$$\ln gdp_per_ccapita = 4,43 + 0,75 \text{ corruption_control} + 0,20 \ln value_added$$

Отже, з ймовірністю допустити помилку 1% при збільшенні оцінки контролю корупції на 1 бал, ВВП на душу населення збільшиться на 0,75%. З ймовірністю допустити помилку 3% при збільшенні доданої вартості на 1%, ВВП на душу населення зросте на 0,2%.

Після проведення всіх тестів можемо зробити висновок, що всі змінні розподілені за нормальним законом, відсутня мультиколінеарність, гетероскедастичність та ендогенність. Тому ця тема може вивчатись та

доповнюватись надалі. Наступним кроком в дослідженні буде побудова прогнозу того, як корупція впливає на економічне зростання країн Європи.

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**MEASURING THE EFFECTIVENESS OF ADVERTISING CONTENT
ELEMENTS IN THE DIGITAL ENVIRONMENT IN THE PURCHASING
DECISION-MAKING PROCESS**

Ivanković E.

Doctoral student

Singidunum University, Belgrade, Serbia

eivankovic@singidunum.ac.rs

Gajić J.

Associate Professor

Singidunum University, Belgrade, Serbia

jgajic@singidunum.ac.rs

Abstract. *Digital advertising is a widespread and extremely dominant way of communication aimed at different target groups. Before the onset of the global health crises, numerous studies indicated that strategically created digital advertising content increases the chances of a positive consumer perception, their interest in sharing as well as their shopping intentions. The aim of this paper is to emphasize the importance of certain elements in creative advertising concepts and to see which types of appeals provoke a positive perception and reaction in shopping. Today's advertising combines different types of appeals and with the help of different measurement methods detects which of them has the greatest impact on the final choice in the purchase. Analysing the effectiveness of appeals in socially responsible campaigns, in advertisements of various products and services; mobile phones, toothpastes and various types of consumer goods; advertisements with celebrities; The results show that emotional appeals have a significant positive impact on the*

perception and final purchasing decision of consumers, especially when it comes to eWOM.

Keywords: *digital advertising, perception, appeals, social media, design*

Introduction

The evolution of communication affected on consumers' habits and changed their behaviour in purchase intentions. Technology improvement further affects the consumers buying process in all types of products and services.

Companies allocate a large portion of their budget on producing and delivering promotional ads to communicate information about their company and products. Companies hope that consumers will purchase either products due to advertisements that deliver messages about a certain brand and its products [1].

Digital media is a revolutionary discovery for everyday human life, as well as for all business activities. Large advertisers have realized that digital media allows them to communicate more effectively with partners and their target groups; animating and motivating them to become loyal faster. This has resulted in large advertisers starting to use the benefits of these media more frequently [2].

The Covid-19 virus pandemic was the main motivation for consumers to switch to digital platforms in search of the necessary information about favourite brands, products, services, current assessments, and events. This was a period when alternative daily rituals were sought, new forms of entertainment, hobbies, learning, communication, and shopping. In today's business world, social media advertising has become one of the most commonly used online promotion activities. With a population of about 7.83 billion people on Earth, in the period of global "lockdown" during 2020, the number of social network users has grown with the fastest growth rate in the last 3 years. A half a billion new members joined social networks in the past year, making up a total of 4.2 billion users at the beginning of 2021, which is 13.2% more than in the same period last year.

Advertisers can easily access a large amount of personal data and consumer information (e.g. by using cookies or tracking sites on websites) that they can use to target their advertising messages. Personalized advertising messages on social networks (e.g. tailored to the target group according to age, gender, habits, and desires) have led to a higher click through rate compared to non-personalized advertising. The collected data is used to personalize digital advertising, so that the ads become personally relevant, attractive, and thus more convincing.

Today, the consumer is an active distributor (by sharing ad content with friends and acquaintances), an associate (commenting publicly on ad content) and even a creator (co-creating ad content for advertisers) of digital content [1].

The purchase intention of a consumer can be influenced by an advertising message in the following way: the advertising message must be noticed by the consumer – targeting the right time, place and appropriateness of the situation. This is called a marketing appeal, which is a basic element of a creative strategy that advertisers use to influence consumers. In that way they manipulate the consumers to perceive products in a way they find appealing, thus convincing them to make the purchase [3, 4]. Considering the abovementioned theories the aim of this paper is to analyse effective design that can influence consumer purchase intention by using advertising appeals in different ways.

Literature review

Given technological advances and a willingness to accelerate research that goes beyond observing consumer behaviour at the macro level, scientists have begun to reach for disciplines such as neuroscience and biomedical engineering to further explore the underlying consumer behaviours and „drivers“ for everyday consumers decisions. The contemporary psycho physiological equipment was used for studies that monitor eye movement, electro dermal reaction, and heart rate and there is an increase in their use in examining consumer attention, arousal levels, and emotional valence. Combining different measurements achieves a better understanding of an individual's emotional responses and achieves good, reliable, and comparable results.

Consumers are exposed to a large number of different messages on a daily basis. In order to enable the delivered message (advertisements) to be more efficient, great attention must be paid to appeals that apply in various advertising campaigns, with a purpose of attracting consumers' attention, making positive impression, eventually leading to purchase [5]. Appeals have to be „a driving power“ for target group and they can be classified in many ways but the main one is:

- **RATIONAL** - the degree to which they felt they learned something from the advertisement (“I learned something from the commercial that I didn't know before”);
- **EMOTIONAL** - the degree to which they felt involved in the advertisement (“The commercial is involving”); and
- **PHYISIOLOGICAL** - the degree to which the advertisement made them hungry (“The commercial makes me hungry”).

Numerous other appeals have been derived from these basic appeals over time such as: adventure appeal, brand appeal, humour appeals, fear appeals, musical appeals, male / female appeals, approval appeals, youth appeal, social appeal, sexual appeals, scarcity appeals, statistical appeals, romantic appeals, ordinary appeals and romantic appeals [2]. Every advertising company has a choice how to use a marketing appeal, and it depends on the type of product, target groups, set goals and the method of advertising they have chosen. However, different viewpoints related to emotional and rational appeals have been subject to many disputes in literature dealing with advertisement and marketing, and those disputes mainly focus on the following areas: stimulating mechanism, consumer needs addressed, type of target audience, national cultural context, kind of products advertised, information transmitted, consumer recall, and persuasive effectiveness [6].

Rational appeals tend to be cognitive in nature because they deliver information and facts [7] unlike emotional appeals that are more affectively inclined and deal with social interactions and feelings [8]. The emotional advertising appeals are similar to storytelling, they nurture a powerful connection between emotion and

brand memories, while rational processing is more focused on cognitive processing of information [9, 10, 11] Benefits of the core product will be higher depending on a consumer's activity and involvement in the buying process. In this case, the use of informative/rational advertising would be highly recommended. Due to the latest findings the informative advertising influences the consumer's behaviour greatly, thus more convergent informative advertising should be designed. In case of normative advertising appeals, the focus is on the message which is related to the formation of peer pressure that influences the purchase decision [12]. A results of the study conducted by Daroch [13] show that advertisements do influence consumers in a way that they catch their attention motivating them to purchase products they do not actually need. Human reactions were detected by the use of non-invasive methods such as electrocardiograms (ECG), electro dermal responses (EDA), facial electromyography (fEMG), electroencephalography (EEG), and functional magnetic resonance imaging (fMRI), and were described in detail by may authors [14] Alongside with these, the psychological measurements were also used to estimate reactions of consumers and their behaviour using heart rate, skin conductance and skin temperature and facial expression analysis [15, 16, 17, 18].

Discussion

This paper will provide an insight into different approaches of eminent researchers who have discussed the effectiveness of advertising. Diverse approaches regarding the effectiveness of advertising appeals on consumer's response will be presented in detail.

In study conducted by Saedi Sadat [4] the use of frequency distribution analysis, reliability tests, confirmatory factor analysis (CFA) and structural equation modeling showed the significant impact of emotional appeal in advertisements in relation to rational appeal The study was based on analysing users' intentions regarding the purchase of mobile phones. Another research had an aim to measure and show the importance of celebrities in advertising and their motivation for connecting consumers with the brand. This study also found that celebrities in

advertising positively influence the consumer emotions and decision-making process when shopping [19]. Using empirical evidence on the effectiveness and inefficiency of certain types of appeals in creative strategies of advertising messages, the authors [3] point out a significant difference in the effects of appeals used in toothpaste advertisements. Research showed that in this case, rational appeals in advertising have a stronger impact on the buying intention among male consumers. On the other hand, emotional appeals in advertising had a stronger influence on purchasing intent among female consumers in the purchasing decision-making process [20].

There is also a research based on content analysis of which dealt with promotion of attitudes and behaviour related to social issues. Forty social advertisements were taken into account, where 25 were categorised as rational appeals, 8 of them as emotional, leaving the last 7 in the category of both appeals. The results indicated that the use of rational tone in social advertising campaigns is preferred by the social marketers. This suggests the discrepancy between theory and practice in the field of social marketing, because in theory emotional appeals should have higher effectiveness. The research was based on the data collected from YouTube channels dedicated to promotion of social issues in Portugal, such as Tobacco consumption; Blood donation; AIDS prevention; Environment Protection, Cancer Screening and Prevention; Public Health (general health issues); Child safety; Road safety; Domestic violence [21]. Another research study showed that both appeals, emotional and rational, in television advertising are very important but the study suggest that the emotional appealing advertising is more influential than rational advertising. Emotional appeals more effectively influence consumer's intention in comparison with rational ones [22]. *The author shows that informative and normative advertising appeals are two widely used appeals in fast moving consumer goods advertisements* [23]. The statistical results presented in the research show that customers who are affected by the prominent price, quality, and convenience in the advertising process, show greater loyalty to certain brands of

consumer products. Customers who are exposed to the influences of family, friends and peers in purchasing decisions show less loyalty to the brand.

In another research, the authors [24] show that consumers have developed a generally negative attitude towards that brand and the purchase of its products or services, because of aggressive advertising on online and mobile platforms. It has been found that the benefits of a product or service are positively assessed in cases where it has been applied unobtrusively by trusted sources.

When consumers use eWOM they can communicate through a various of means. Consumers like sharing information, video materials, photos or presentations about different kind of brands and thus they become active participants in shaping Internet content. These features of the Internet have contributed to its significant influence on consumer purchasing decisions [25].

There is also a research [26] which shows that the emotional appeals regarding pride and gratitude positively influence consumer's intention to distribute eWOM (electronic word-of-mouth) regarding sustainable luxury brands. How will consumers behave regarding eWOM depends on their social closeness, and study suggests that consumers are more prone to share positive WOM with people they do not know and are not close to, while negative WOM is preferably more shared with friends and family members [27].

As the eWOM is very important way of spreading information in digital environment. One study showed the results [26] that emotional appeals connecting with pride and gratitude increase consumer interest in sharing information about sustainable luxury brands. The rising popularity of user-generated content (UGC) online and new revenue-sharing models, presents strategic opportunities for creative advertisers, allowing them to involve consumers in the creation of digital advertisements for various products and services.

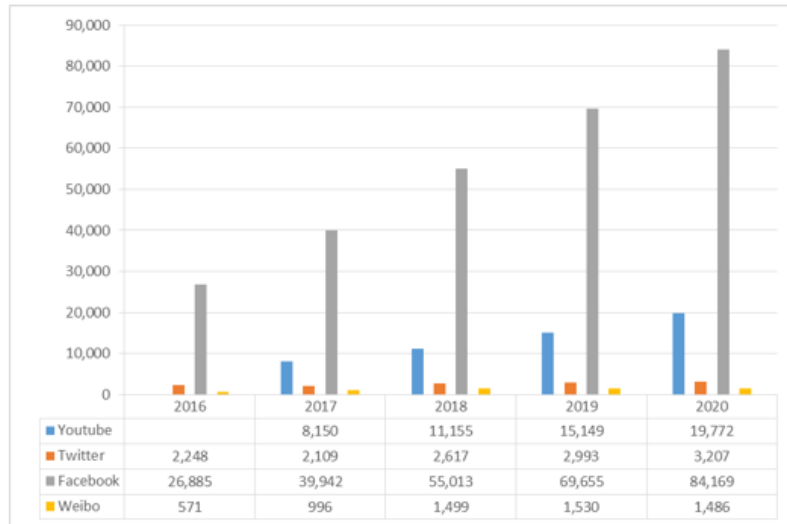


Figure 1: Youtube, Twitter, Facebook and Weibo AD revenue in billions
 (<https://investor.fb.com/home/default.aspx>, <http://ir.weibo.com/financial-information/annual-reports/>, <https://investor.twitterinc.com/home/default.aspx> ,
<https://abc.xyz/investor/>)

YouTube, Twitter, Facebook and Weibo companies have recognized the importance of investing in online advertising and these companies have recorded an increase in revenues from advertising, since 2016 (Figure 1).

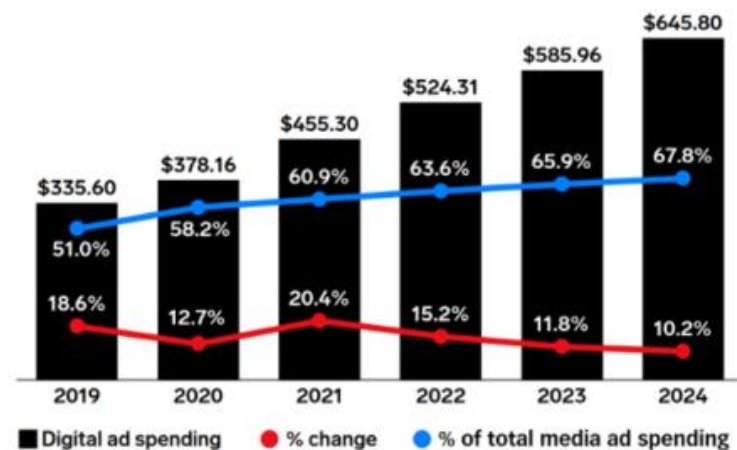


Figure 2: Digital advertising spending worldwide in billions
 (<https://www.emarketer.com/>)

Reports regarding revenue and ad spending are the industry benchmark for the health of the digital advertising ecosystem. Until 2020, when the corona virus negatively affected many industries, advertising costs worldwide have been increasing steadily. The return on the steady growth track is expected in 2021, including the surpass of 645 billion U.S. dollars in 2024. Worldwide digital ad spending was increased for 12.7% in the last year. This year, as the overall ad market recovers, digital spending will increase by 20.4% (Figure 2).

Conclusion and recommendation

We tried to investigate the role and significance of appeals in digital advertising, when making a purchase decision and the results of this paper show that the use of emotional appeals in digital advertising, achieves a stronger influence on purchasing decisions and brand awareness of digital consumers.

Another important issue regarding digital advertising is creative strategies and techniques in advertising messages and the fact that their effectiveness and efficiency are not measurable. The research conducted in this paper primarily shows that it achieves significant differences in the effects of applying certain appeals, either in a positive direction, as a motivator for buying, or in a negative direction, as a discouragement intending to buy. The results of this paper will be the basis for future research, in order to examine consumer perception and the power of the elements of the creative concept of advertising campaigns.

Further research should comprise different samples, and it could also include other categories of products and services. It would contribute to a better understanding of creative process and choosing appropriate appeal well as to making conclusions and implications in a more precise way for a certain category of products or services and specific target group.

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DISTANCE ENTRANCE EXAMS TO ART COLLEGES**Labik Ludovit**

Prof., ArtD.

 <https://orcid.org/0000-0002-5539-2385>labik@vsmu.sk, 00421 915 899 530, <https://www.avfx.sk/>

Faculty of Film and Television

Academy of Performing Arts in Bratislava, Slovakia.

Head of the Atelier of Visual Effects and Game Design

Abstract. *The current pandemic situation is a challenge not only to manage the technical means to maintain distance communication, but also creates increased demands on the logistics of these conference meetings so that in the end all legal and authorial criteria are preserved in terms of correctness and completeness.*

The Film and Television Faculty of the Academy of Performing Arts in Bratislava, Slovakia, educates students in the field of film art. Her subjects are directing, camera, screenwriting, editing, sound design, visual effects, game design, and production. Pandemic measures have severely affected the production process of student exercises. The film cannot be created in a contactless way. However, it is assumed that the existing pandemic measures will disappear once and to maintain the natural uninterrupted sequence in education, it is necessary to carry out entrance examinations with the specifics that the individual film professions contain. Implement in such a way that all preconditions for demonstrable recognition of talent, their subsequent selection and selection during the implemented distance entrance examinations are preserved.

The Atelier of visual effects and game design of the Film Faculty was the one who decided to carry out distance entrance exams with the belief that it could ensure the equality and fairness of conditions for all applicants for study.

During one day, the students completed three tests and the realization of two art assignments. The resulting work was handed over to two servers within the time limit, and all this occurred without the slightest suspicion of incorrect competition.

The experiment was so successful that it is assumed that the entrance exams of VFX and GD students could occur in the same way in the future, regardless of the acute or non-acuteness of the pandemic situation in the world.

This article should offer the know-how of successfully solving distance entrance exams for schools with a similar pedagogical focus.

Keywords: *distance entrance examinations, film art, pandemic*

Introduction

Despite the COVID-19 pandemic, which has been a worldwide crisis, the academic processes of institutions of higher education institutions have had to continue regardless. Educators have had to get accustomed to a new medium of communication: videoconferencing. Nowadays, videoconferencing is standard at all levels of education.

Regarding the process of verification, the acquired results of students during the educational process, tests, or other methods of verifying the acquired knowledge can serve as a success check. However, doubts remain about the correctness and validity of the control process. Students can always find easier and easier ways to get around the system: a student would not be a student unless they mentioned such ways with a smile when recounting them years later in adulthood.

It is a game: the two participating sides, student, and teacher, each has a different purpose and different means for achieving it. In this contest between both, it is essential for each to determine what tools the other must achieve their goals and full potential. This issue is particularly crucial for the admissions process for art

students, especially in cases of schools where the number of students who can be accepted can be very limited and where the misjudging talent of a student is not acceptable.

The goal of the Faculty of Film and Television at the Academy of Performing Arts is to educate, nurture, and fashion future top personalities in the field of visual story media. This is a great responsibility because it is these people, through their work in media such as film, television, internet, multimedia happenings, and multimedia who have the greatest power to shape people's thinking. As a result, no mistake can therefore be made during the entrance examinations for the study of the film. From the pedagogical point of view of the entrance exams of the art school, caution persists, perhaps even skepticism, about the entrance exams evaluating the talents of distance candidates. Visual Effects and Game Design are two study courses out of eleven which are currently offered to students at FTF VSMU Bratislava. These programs are the most modern technologies, so the weight of the experiment with long-distance entrance exams in the talent field fell on their implementation.

This experiment has unexpectedly been unequivocally successful and, as a result, it is foreseen that the current long-distance processes can be expected to remain in place even in such a time as when restrictions imposed by the pandemic may be lifted. I therefore consider it imperative that this valuable know-how be given a platform to further inspire other schools in similar education.

The communication videoconferencing tool in Slovakia was established by the Ministry MS TEAMS which is part of the Office 365 program and is available free-of-charge to all educators and students. While the entire Office 365 software package is not yet well-tuned enough for educational needs, many logistics processes do not work, but I find the free use of Office 365 for students to be historically groundbreaking. While the initial phase of familiarization with this tool will likely cause some difficulties, understanding and anticipating further improvements to this environment will also show significant results.

The priorities for the preparation of entrance examinations online are the following:

1. Cheating: students shall not be allowed to gain an unfair advantage or illegally describe, assist themselves in any way (During traditional, in-person school entrance exams, the control process is simple: artistic or test performance is carried by participants in the presence of examiners and the possibility of bypassing the rules is therefore minimal. In the case of remote school entrance exams, it is necessary to avoid circumvention of the rules by technical prerequisites and to allow constant visual inspection of the work environment used by the student during the exam.)

2. Ensuring a level playing field (In the preparatory phase of entrance examinations, candidates must see and know the conditions of other candidates, agree with them or supplement their technical or technological equipment in the same way)

3. Full logistical clarity of the process for all involved. It is known that artistic thinking is not always identical to the technical assumptions of students (The technical and personal readiness of candidates is different; therefore, each step is conditioned by the individual question and the answer of each candidate, especially that he understands the issue)

4. Compliance with GDPR (Candidates must agree to record and subsequently use both their works of art and their computer environment for a clearly defined future use of these records)

5. Reduce the possibility of **technical failures** to a minimum (The organizer should be connected to the conference from at least two computers with different accounts and at least two different Internet networks. The applicant must look for the possibility of a fast and stable Internet connection.)

Preparation for entrance exams in MS TEAMS

Entrance examinations may have two or more components, including:

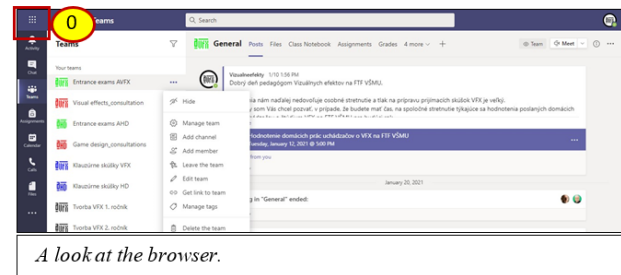
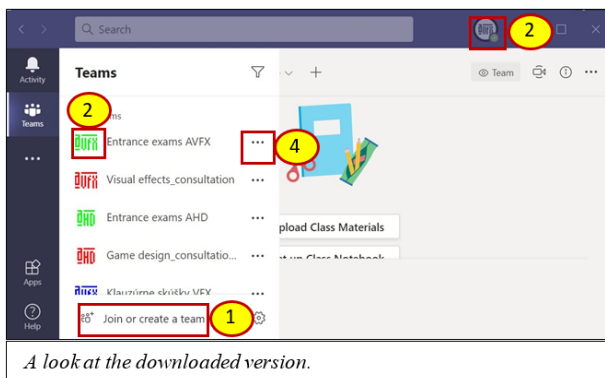
1. work that candidates do at home

2. work created in person

Applicants usually have a long time (2-3 months) for work at home which should pass to their mutually seen, while the time for work in person is limited to a couple hours and work realized at home should be handed over to students so that they do not see each other.

Create a TEAMS group

It is recommended to work equally with the downloaded Teams and the same generated in the browser.



The difference between the downloaded and online versions of TEAMS (0). The online version allows you to work directly with online program versions, e.g., SharePoint, Outlook, Forms... The downloaded version requires an online version to play the video. The online version is more versatile, both need to be used.

1. CREATE A TEAM (1).

2. Mark the created team with your own selected icons (2).

3. In the settings, you set a view similar to (3).

4. In the settings below, three dots select, **MANAGE TEAM**, and **add the addresses of all applicants** (4). You can add educators later. Mail addresses can have any domain. There are one or two team owners, and all others, including educators, who will later evaluate the work are members. From now, when sending messages, everyone in this parent directory will receive information. When you insert TEAMS, it automatically sends information to the owner of the mail address about

the assignment to the channel. After inserting the address to TEAMS, it automatically sends information to the owner of the mail address about the assignment to the channel.

5. In addition to the automatically created GENERAL (5) channel, it is possible to create additional channels (5A) that could be locked and are intended to be seen only by invited participants, but only by a set of participants of the parent ADDRESS BOOK ENTRANCE EXAMS.

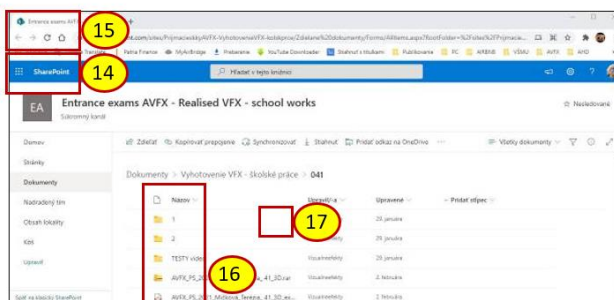
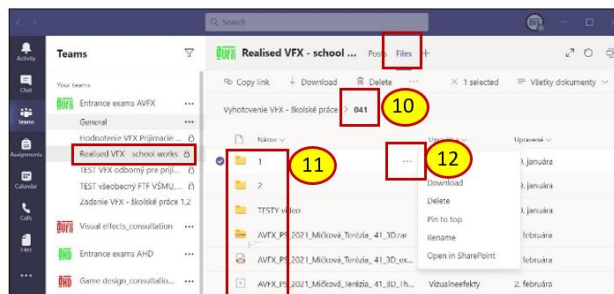
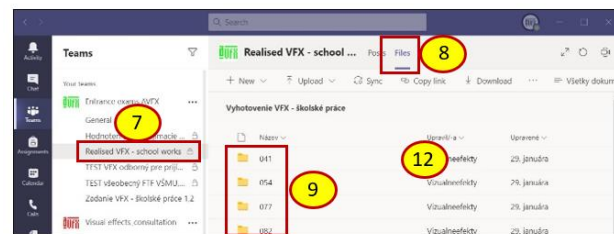
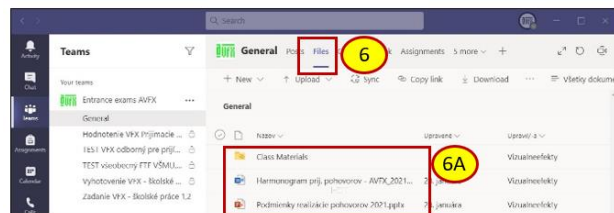
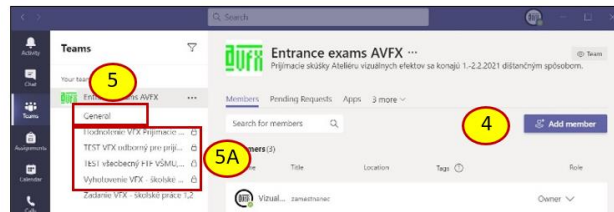
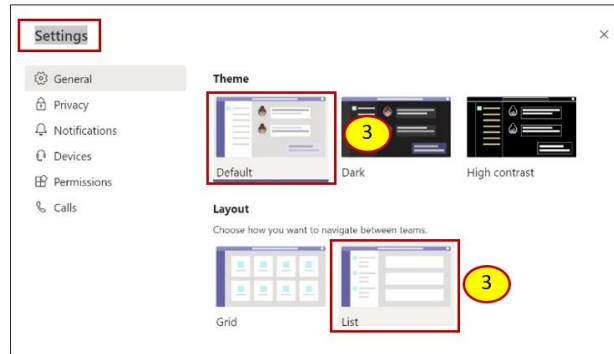
6. All instruction type files (6A) are inserted into the FILES bar (6) to help resolve the intrusion. If the assignments of the exercises are of a public nature, then project assignments are also inserted into this folder. If the assignments are of a nonpublic nature, they are inserted into a locked channel (5A,7).

7. locked channel is created in which you do not pre-upload members. In it, under FILES (8), we create folders with the serial number or name of the candidate (9) for all candidates and we will also create one test for our own control process.

8. After opening the created folder (10), we create as many subfolders (11) and with such a label as we expect of the student's realized home and school works.

9. With this newly established subfolder of home and schoolwork, it is necessary to add individual rights for applicants. Open SHOW ACTIONS (12) options and then OPEN IN SHAREPOINT.

10. When you click OPEN IN SHAREPOINT, SharePoint (14) opens in the set browser (15). In this case, in Chrome. Opens the same file structure as created in TEAMS (16).



11. Under THE SHOW ACTIONS option (17), we select MANAGE ACCESS and a window opens on the right side with the same name (18). Below is the direct access (19) option with the ability to insert access by inserting an email to a future bidder to share their work with the storage site. The share of the selected option is also plural to get to the same result... In this way, we have created the prerequisites for applicants' access to the school repository, in which, after inserting home and schoolwork, educators will be able to evaluate their performance.

12. In Forms (21), we will create test forms with the number of tests we need for the entrance examination (22). The first or last question on the form is the candidate's serial number, the next question may be the name of the candidate.

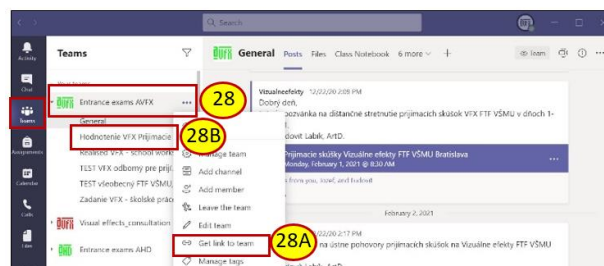
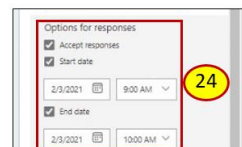
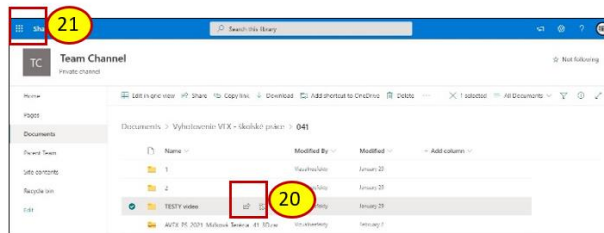
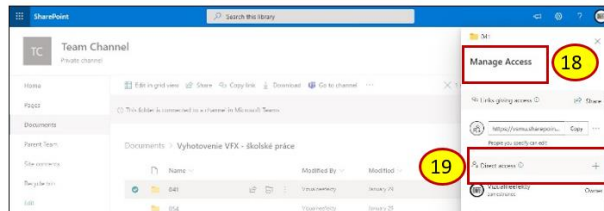
13. After the test has been created, it is necessary to specify in SETTINGS (23) the exact day when the test may be open to participants (24).

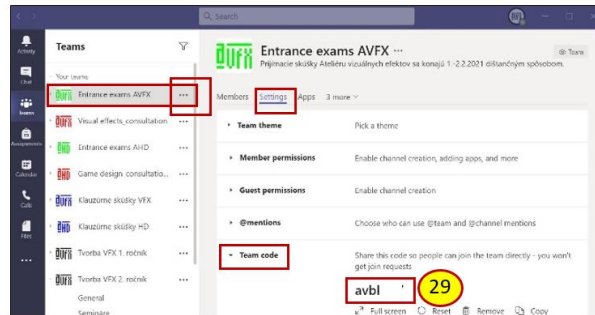
14. We insert the prepared tests into TEAMS in the General channel settings (25) by adding a “+” sign in the menu bar (26).

15. We select Forms (27) and add existing forms.

16. We create an Excel file with a scoreboard for the evaluation of candidates' work for both domestic and schoolwork, put them in a locked channel (28B) of the main directory, and in SharePoint we assign rights to educators in the same way as in point 9.

Example of a table ([https://avfx-video.s3.eu-central-1.amazonaws.com/avfx_public/field_dokumenty/2021-02/AHD_HERNY_DIZAJN - PS - TABU%C4%BDKY 2021.xlsx](https://avfx-video.s3.eu-central-1.amazonaws.com/avfx_public/field_dokumenty/2021-02/AHD_HERNY_DIZAJN_PS-TABU%C4%BDKY_2021.xlsx))





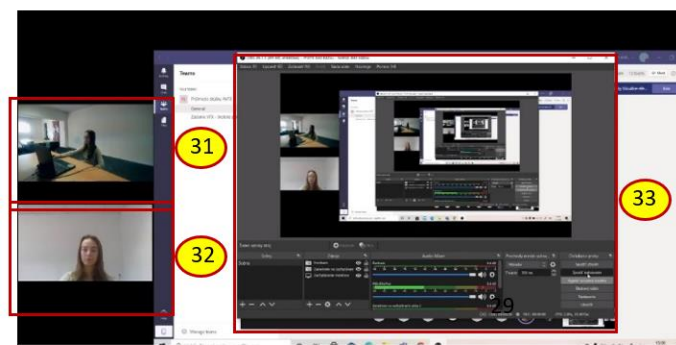
In this way, we have prepared basic tasks to start communication with applicants and evaluation educators.

By mail information, we will direct applicants to put their homework in the prepared folder, which we pedagogically evaluate according to our own timetable.

After this, two preparatory meetings will be held before school entrance exams are carried out.

First preparatory meeting

Roughly 2 weeks before the school exam date, a TEAMS meeting invite will be sent out by sending out for a date at least one week before the entrance exams. Technological mantinels will be identified at the meeting. Usually, connecting to a TEAMS meeting occurs without problem, however, should one come up, you can also send a team meeting line (28A) or TEAMS code (29) to the candidate's email address instead.

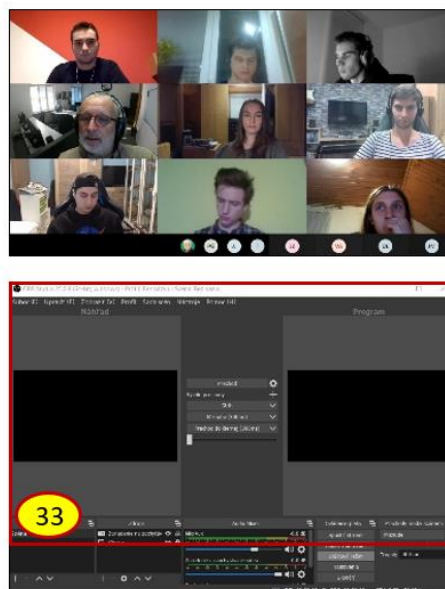


Requirements

a) Applicants must use an external **webcam** with, for example, a 5-meter USB extension cable located in the corner of the room to capture the candidate's entire workspace.

b) During the entrance exams, they also use a built-in laptop camera, with a shot of the middle shot of the candidate's face. However, this condition may or may not be met.

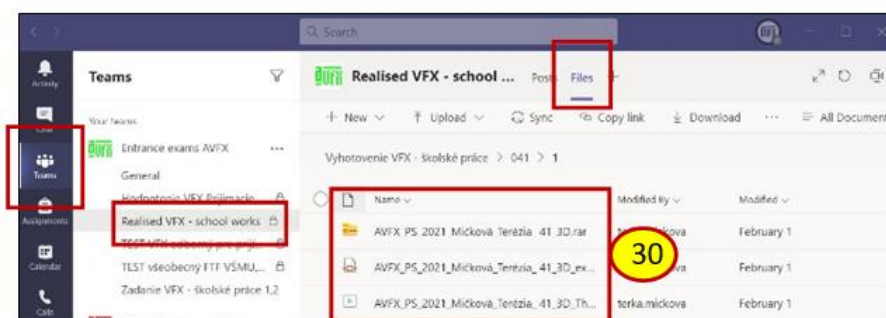
c) Downloading of the **open-source software OBS** (33). Captures the work environment on your computer's screen. The applicant may have as many screens at his disposal as he needs. He has a week to learn how to work with the program and its settings. You should test the program. The task is to be able to record with the OBS all desktops and all cameras at his disposal. For TEAMS, it is recommended to set the output format mp4.



d) Nowadays, all students at media schools know the logic of **editing programs**, can work with them, and part of their household work is carried out in a cutting program, which may be free, or may have the option of free trial versions (e.g., Adobe Premier or AVID). The task of students during the preparatory week is to record their screen in the time length of the longest of the planned school assignments that will be carried out during the exams. In the case of media students, 3

to 3.5 hours. The test bench should insert this record into the shearing program and speed up the desktop recording so that its duration does not exceed 3-5 minutes (approx. 4000x).

e) During the meeting, candidates put a small test file in a folder that was created for them through SharePoint for the organizer to verify that the file can be successfully accessed. (In the event of any error, first check that access rights have granted to the organizer's email address in SharePoint (30).



f) The nomenclature of files to be inserted into TEAMS repository shall be:

E.g.: 2021_Name_ Number_2D_ Cypriano.jpg

2021_Name_ Number_2D_ OBS1.mp4

The goal of the first preparatory meeting is to verify that candidates can join the TEAMS meeting, can deposit files into the school repository, meet webcam requirements for the visibility of the correctness of the process, and prepare the SW to document their creative process.

The second preparatory meeting

The second preparatory meeting shall occur on the day before the entrance examinations. All applicants will need to be connected to TEAMS, microphone functionality, external camera (31), close camera (32), OBS installation and mastering (33), desktop recording (mp4), and then gameplay in TEAMS environments is verified. The readiness of the shearing program and other programs

that candidates will use during the examinations shall also be checked. The principle and repository of the prepared tests shall be repeatedly explained.

The course of distance entrance examinations

1. Circumvention of rules.

While sharing a shared gallery of participants, which was always available to participants, they not only shared their own workspace, but also had control of other applicants' shared space. In this way, the control of the correctness of the course was based not only on the responsibility of the organizer, but above all on the collective agreement. At the beginning of the meeting, the participants individually agreed on how to place the cameras and how to record the work surfaces.

2. Ensuring a level playing field for all involved.

During the execution of individual tasks, students are constantly asked if they are present and if they have any technical problems.

3. Clarity.

Ensuring this requirement occurred during two preparatory meetings and during distance tests there is a constant check of the clarity of the handouts. All assignments must also have a written form available in one of the TEAMS directories.

4. Compliance with GDPR conditions.

The candidates were already informed at the control meeting that the whole process would be recorded and now at the beginning of the distance meeting everyone, one by one, is asked if they agree with the conditions and with the recording of the exams. This spoken and recorded certificate is a legal document to ensure that applicants are informed.

5. Reducing the possibility of technical failure.

The condition is a simultaneous connection to TEAMS from several pedagogical profiles and from several Internet connections. In a school classroom with 2-3 computers with different login accounts and at least two accounts that have

ownership settings and at least one other Internet provider with the assistance of an educator, a member of the admissions committee and an assisting student. The failure on the part of the tenderer is erratic and is assessed on a case-by-case basis, given the correctness of the examinations.

Inviting educators to evaluate work

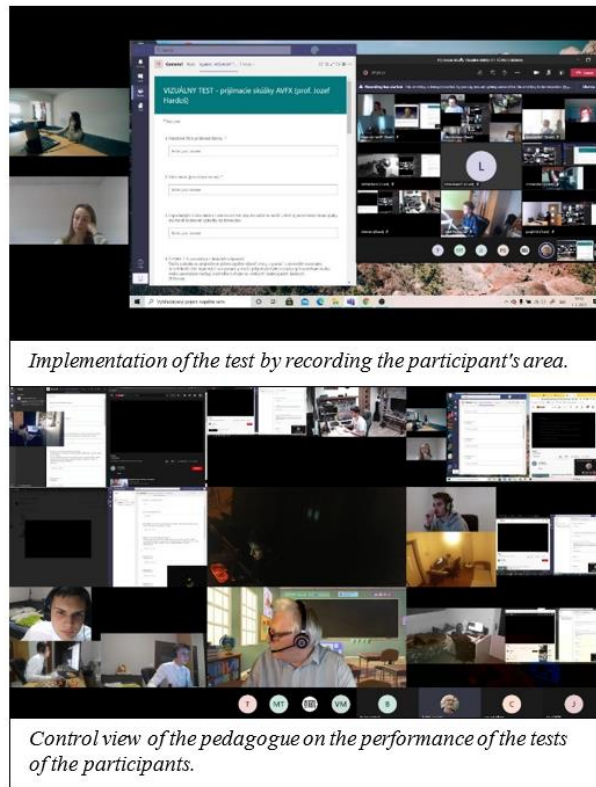


It is anticipated that the work will be handed over and educators will be able to evaluate the assignments. We put educators as members (34) in the TEAMS master directory and create a time-determined conference space for them in the TEAMS calendar (TEAMS, as a conference program, still has flaws. One is that it sends mail information to all members of the root directory, even if their addresses were not listed when scheduling the conference. Therefore, the text of the conferences being produced must be precise and there must be a note with to whom the conference is addressed). We will repeat the repository for the Excel table, where they are to insert their scoring of the works and the repository of the work of the applicants.

On the day of the entrance examination, candidates shall undergo a technical inspection half an hour before the first task is issued. Again, the connectivity of all logged-ins and their technical readiness regarding connection to TEAMS, microphone, cameras, OBS, and any other necessary programs is checked. At the agreed time, one or more Forms' tests that have been programmed to open at a certain time and close at a certain time are automatically made available (Described in point 13 of this text).

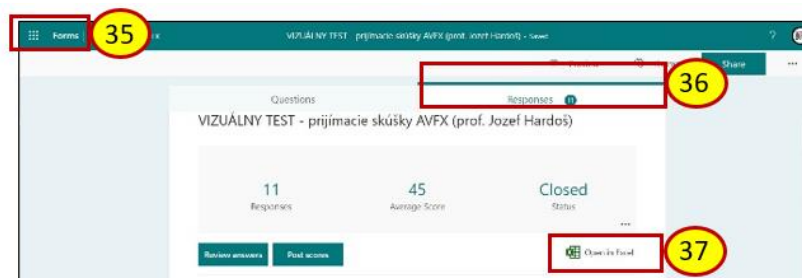
The implementation of practical work is monitored by the organizers and controlled by the participants themselves.

Carrying out written tests



The desktop recording by OBS is started in advance, the environment sound is tested, and cameras record the implementation environment. The organizer's display shows all test participants simultaneously as they conduct their tests. On a scan computer that has participant-like account settings, we will check to see if it is possible to track the cursor solution in their view and copy (describe) the work of others). After submitting the tests, candidates report the end, stop the OBS name its name in an agreed manner, and put it in a SharePoint repository. They are given the next assignment.

Evaluation of written tests



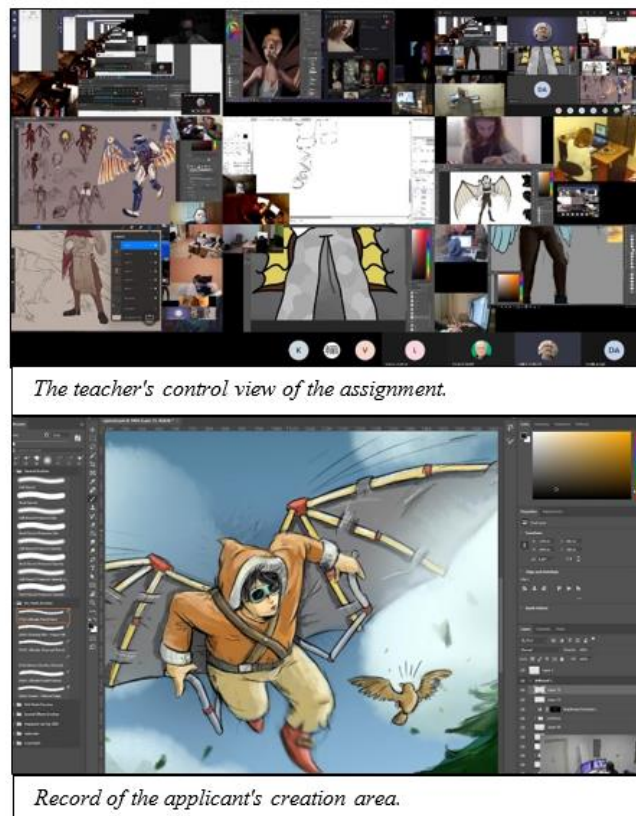
The evaluation of responses is automatic in Forms (35), and the RESPONSES tab (36), the Excel file (37) after downloading will accurately determine the correctness of the responses from the test.

This excel file shows why it was necessary to insert a request for the candidate to indicate the name or assigned number in the test (Described in point 12 of this text). It is possible to evaluate the tests additionally.

Implementation of practical exercises



Desktop recording by OBS is started in advance of the exam start time, environment sound is also recorded, and cameras record the implementation environment.



Students receive a contract, which is repeatedly verbally translated in written form and is individually verified for its clarity. The typewriter form is inserted into the unlocked channel below the FILES bar (37), which has been prepared in advance. A time grant is set for its implementation. The organizer's display shows all participants in a handy assignment doing their job. When they are done, they stop the OBS, name their artistic output in the agreed manner, and put them in ready folders in SharePoint. They put the OBS output in the prepared editing program, giving speed up so that the result has 3-5 minutes, and export in mp4 format. They will put it in a SharePoint repository made accessible to (7,9) reviewers.

(In addition, when conducting VFX and GD entrance exams, applicants should also save their work on the VFX and HD studios website and the educators evaluated the work in the web environment.)

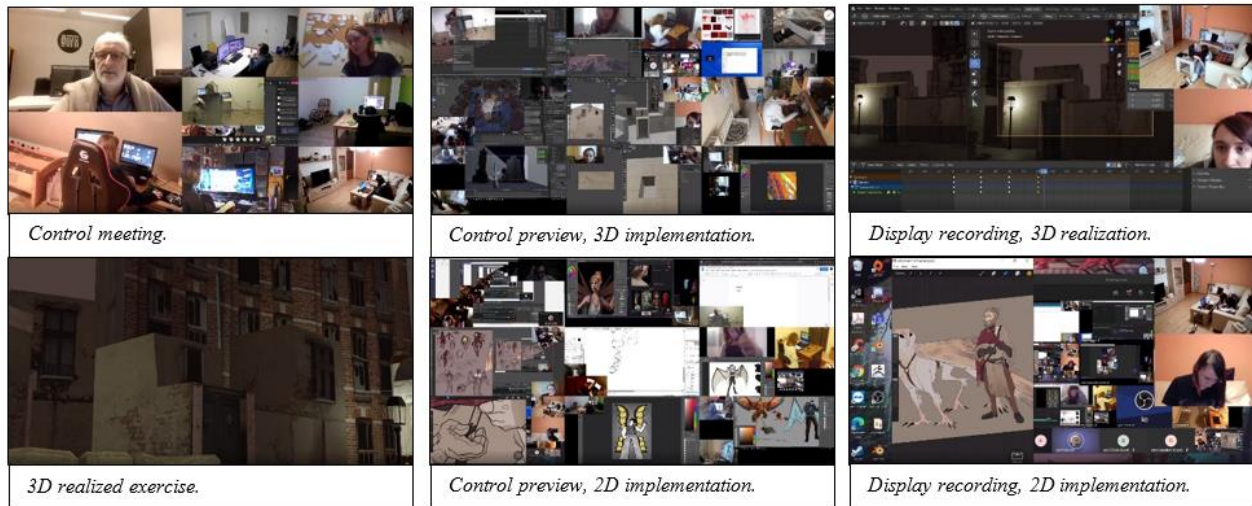
Educators express their attitudes towards work (30) using student numbers. Ideal for a prepared Excel table accessible only to educators inserted into the TEAMS environment.

Example (https://avfx-video.s3.eu-central-1.amazonaws.com/avfx_public/field_dokumenty/2021-02/AHD_HERNY_DIZAJN - PS - TABU%C4%BDKY 2021.xlsx)

After the completion of the work, it is advisable to ask the candidates about their thoughts regarding the entrance examinations. Subsequently, organize oral interviews, which are already carried out in a well-known standard videoconferencing method with the participation of invited educators and one candidate within the prepared time range.

The entrance examinations also include oral interviews connected with the oral defense of the work carried out. This process is carried out in a standard video conferencing way when candidates are invited to the conference in a specified time in a row. This communication makes good use of the screen-sharing tool in TEAMS by members of the commission or candidates.

Examples of recordings for the Visual Effects program entrance exam
(Ctrl+Click to start a video.)



[https://avfx-video.s3.eu-central-](https://avfx-video.s3.eu-central-1.amazonaws.com/ahd_public/field_media_video_file/2021-02/Control_meeting_one_week_before_exams_HD%20FTF%20V%C5%A0MU.mp4)

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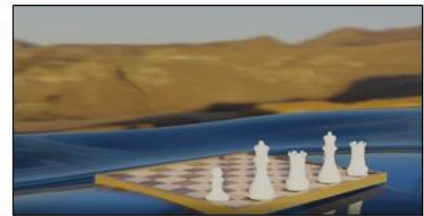
[02/Realisation_2D_display_HD%20FTF%20V%C5%A0MU.mp4](https://avfx-video.s3.eu-central-1.amazonaws.com/ahd_public/field_media_video_file/2021-02/Realisation_2D_display_HD%20FTF%20V%C5%A0MU.mp4)



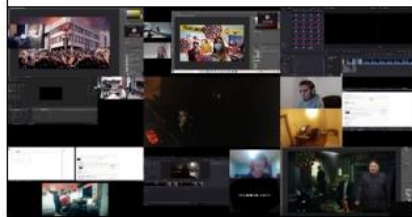
Control meeting.



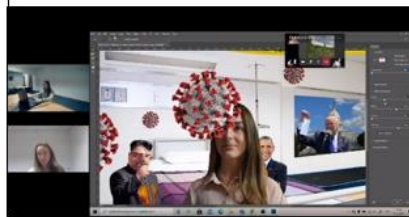
Display recording, 3D realization.



3D realized exercise.



Control preview, 2D implementation.



Display recording, 2D implementation.

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Conclusions and perspectives of further development

After a pandemic, communication in the school environment will never be like the one before the pandemic. Digitization and the associated videoconferencing university communication is a great personal challenge for every teacher to improve, and without mastering it, there can be no further personal shift.

This also applies to art schools, which are known to be the basic building block is creativity and work with emotion. In the future, creativity and the display of emotions will be inseparable from mastering technologies and the associated mastering videoconferencing communication in all phases of the pedagogical process.

THE CRYSTAL AND STRUCTURES OF NaMnP_2O_7

Lavryk R.V.

Ph in Chemistry,

National University of Life and Environmental Sciences of Ukraine

Abstract. *The crystal and magnetic structures of NaMnP_2O_7 have been determined. The crystal structure ($a=7.3672(2)$, $b=9.6782(2)$, $c=8.6467(2)\text{\AA}$, $\beta=105.488(1)^\circ$ space group $P2_1/c$, was determined from X-ray and neutron powder diffraction, and was found to be isostructural with NaFeP_2O_7 . Magnetic susceptibility measurements showed that NaMnP_2O_7 behaves as a Curie-Weiss paramagnet at high temperatures and orders antiferromagnetically below a Neel temperature of 20K. From low temperature neutron diffraction, the magnetic structure was found to be commensurate with the nuclear cell, with a magnetic symmetry group $P2_1/c$.*

Keywords: *inorganic compounds, chemical synthesis, X-ray diffraction, crystal structure.*

Introduction. Diphosphates of the trivalent transition metals of the stoichiometry $\text{A}^{\text{I}}\text{M}^{\text{III}}\text{P}_2\text{O}_7$ (A=alkali metal, M= V, Fe, Mo) exhibit several structure types [1, 2]. The frameworks of these phases are built up from corner-sharing MO_6 octaedra and P_2O_7 groups. The size of the alkali metal cation plays an important role in the crystal structures of $\text{A}^{\text{I}}\text{M}^{\text{III}}\text{P}_2\text{O}_7$. The diphosphate group is very adaptive to the bonding requirements of other groups in the structure by adjusting the P-O-P bond angle and configuration of two phosphates tetrahedra. In our continuing study of magnetic exchange interactions in these systems, we have

investigated the nuclear and magnetic structure of NaMnP_2O_7 using neutron powder diffraction data recorded on HRPT at a wavelength of 1.886 Å at 2K and 100K. Analysis was performed using the GSAS suite of programs and the Rietveld plot from the 2K data is studied.

Results and discussion. The resulting nuclear structure was found to consist of a framework of corner-sharing MnO_6 octahedral and P_2O_7 groups, creating intersecting tunnels, with the Na^+ cation located at the intersection of these tunnels. The MnO_6 octahedral were found to display an untypical (2+2+2) distorted arrangement (2 long, 2 medium and 2 short bonds) instead of the traditional (4+2) Jahn-Teller distortion expected for Mn^{+3} (Tab. 1,2,3).

The diphosphate group contained two distorted PO_4 tetraedra, with long P-O bonds to the bridging O atom and shorter bonds to terminal O atoms [3-8].

Table 1. Coordinates of atoms ($\times 10^4$) and equivalent thermal corrections ($\text{E}^2 \times 10^3$) for the structure NaMnP_2O_7

Atom	<i>x/a</i>	<i>y/b</i>	<i>z/c</i>	<i>U_{eq}</i>
Mn(1)	10376(1)	671(1)	3347(1)	8(1)
P(1)	6025(2)	2500	5356(1)	6(1)
P(2)	3333(2)	2500	8226(1)	6(1)
P(3)	4620(2)	2500	11435(1)	6(1)
O(1)	7747(3)	991(2)	5160(1)	9(1)
O(2)	2987(4)	2500	4457(2)	10(1)
O(3)	5665(4)	2500	7114(2)	12(1)
O(4)	1602(3)	1001(2)	8139(2)	12(1)
O(5)	5528(4)	2500	9736(2)	8(1)
O(6)	2870(2)	1011(2)	11569(1)	11(1)
O(7)	7609(4)	2500	12385(2)	11(1)
Na(1)	0	0	0	26(1)

Table 2. Coordinates of atoms ($\times 10^4$) and equivalent thermal corrections ($E^2 \times 10^3$) for the structure NaMnP_2O_7

<i>Atom</i>	<i>x/a</i>	<i>y/b</i>	<i>z/c</i>	<i>U_{eq}</i>
Mn(1)	3500(2)	7382(1)	2648(1)	9(1)
Mn(2)	2731(2)	3915(1)	2137(1)	11(1)
P(1)	2938(3)	7342(2)	-425(2)	12(1)
P(2)	-691(3)	8884(2)	-2107(2)	14(1)
P(3)	5751(2)	6623(2)	5429(2)	8(1)
P(4)	8722(3)	6413(2)	3166(2)	10(1)
O(1)	3759(10)	7796(7)	517(5)	26(1)
O(2)	4384(9)	7433(6)	-1659(5)	22(1)
O(3)	2333(9)	5754(6)	249(5)	22(1)
O(4)	801(8)	8726(6)	-994(5)	17(1)
O(5)	-2763(8)	10034(6)	-1938(6)	21(1)
O(6)	457(10)	9444(8)	-3458(6)	34(2)
O(7)	-966(10)	7203(7)	-1628(8)	35(2)
O(8)	3823(8)	7300(6)	4623(5)	16(1)
O(9)	6507(8)	7905(6)	5591(5)	14(1)
O(10)	5537(8)	5282(5)	6810(4)	13(1)
O(11)	7653(8)	5779(6)	4650(5)	14(1)
O(12)	6911(8)	7440(7)	2230(5)	20(1)
O(13)	9775(8)	4887(7)	2957(5)	20(1)
O(14)	10216(8)	7368(6)	3137(6)	22(1)
Na(4A)	-1635(28)	9343(21)	529(17)	120(6)

On fig. 1 demonstrated IR-spectrum of obtained compounds – double phosphate NaMnP_2O_7 .

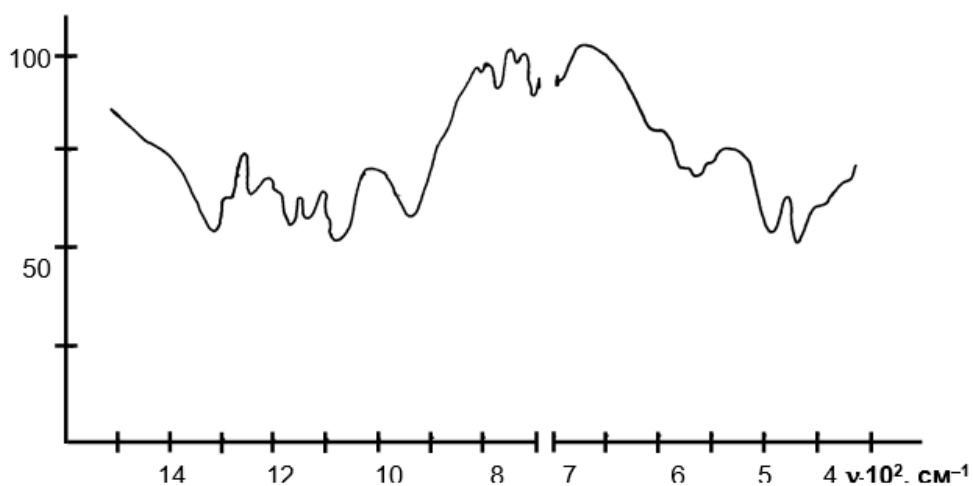


Figure 1. IR-spectrum of NaMnP_2O_7

Table 3. Coordinates of atoms ($\times 10^4$) and equivalent thermal corrections ($E^2 \times 10^3$) for the structure NaMnP_2O_7

<i>Atom</i>	<i>x/a</i>	<i>y/b</i>	<i>z/c</i>	<i>U_{eq}</i>
Mn(1)	1433(2)	2634(1)	7356(1)	10(1)
Mn(2)	7755(2)	3918(1)	2158(1)	10(1)
P(1)	7880(3)	7321(2)	-382(2)	11(1)
P(2)	4287(3)	8927(2)	-2152(2)	15(1)
P(3)	3760(3)	6397(2)	3184(2)	11(1)
P(4)	711(3)	6595(2)	5469(2)	9(1)
O(1)	7082(10)	5784(7)	346(6)	24(1)
O(2)	9386(9)	7303(7)	-1603(6)	25(1)
O(3)	8773(9)	7774(7)	555(5)	21(1)
O(4)	5807(8)	8807(6)	-1040(5)	16(1)
O(5)	2164(8)	10105(6)	-2021(5)	16(1)
O(6)	3977(11)	7229(8)	-1657(9)	40(2)
O(7)	5493(11)	9497(12)	-3521(7)	53(2)
O(8)	4812(9)	4837(7)	2993(6)	22(1)
O(9)	1906(8)	7454(7)	2261(5)	20(1)
O(10)	5320(9)	7338(7)	3168(6)	24(1)
O(11)	2658(9)	5755(6)	4697(5)	16(1)
O(12)	-1236(9)	7292(7)	4628(5)	18(1)
O(13)	1470(9)	7895(6)	5648(5)	17(1)
O(14)	502(8)	5221(6)	6857(5)	13(1)
Na(1)	9247(7)	9859(4)	-3344(4)	39(1)
Na(1A)	4760(4)	2094(3)	4799(2)	2(1)

The atomic coordinates of were used as starting parameters for structure refinements. The Mn cations were placed in the M(5) site. Alkali metal cations were placed in the M(4) site as it was obtained. The structure refinements in these models gave a good agreement between the observed and calculated patterns and reasonable values of isotropic thermal atomic parameters for all cations. Final plots of observed electron density maps did not show residual peaks.

After the nuclear contribution was fitted for the 2K neutron diffraction pattern, extra peaks and intensity were evident and were assigned as magnetic diffraction. Subsequently, the nuclear and magnetic cells were found to be commensurate and consistent with the magnetic space group $P2_1/c$, with the

magnetic moments lying in the *ac* plane resulting in a moment of $3.65 \mu_B$. The relative direction of the four Mn spins in the unit cell were found to be (0.23, 0.90, 0.26)+, (0.23, 0.60, 0.76)-, (0.77, 0.40, 0.25)+ (0.77, 0.10, 0.75)-, orientated closely to the two long axial Mn-O bonds (figure 2).

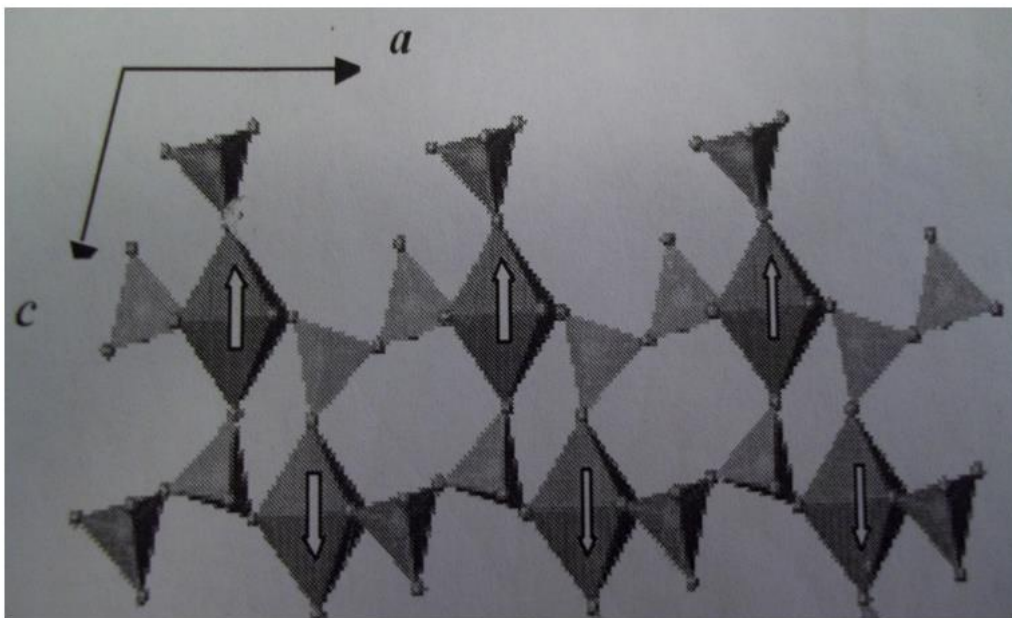


Figure 2. Orientated closely Mn-O bonds of NaMnP_2O_7

Conclusion. Interestingly, this magnetic structure was found to consist of both antiferromagnetic and ferromagnetic exchange interactions mediated through Mn-O-Mn-O pathways. Furthermore, optimum conditions for the growing of single-crystals of the compound with high yield (over 50% of weight) have been selected, the series of their physical and chemical properties have been studied and the melting point of the compound has been determined. A complete XRD of the synthesized phosphate has been performed and the special features of its structure have been defined: unusual coordination number of atoms (5), recurrence interval of tetrahedra $[\text{PO}_4]$ in the poly-phosphate chains of the structure. These results stimulate further research of the compound and creation of materials on its basis.

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THE GREENING OF HIGHER CHEMICAL EDUCATION IN UNIVERSITY

Lavryk R.V.

Ph in Chemistry,

National University of Life and Environmental Sciences of Ukraine

Galimova V.M.

Ph in Chemistry,

National University of Life and Environmental Sciences of Ukraine

Abstract. *Based on the electrochemical method of inversion chronopotentiometry (IHP), taking into account modern advances in electrochemistry, computer science, microprocessor and computer technology, created the analyzer M-HA1000-5 for ecomonitoring of HM in environmental objects with new software (Windows XP), which meets all the requirements for modern analytical instruments and is not inferior to the best foreign counterparts. The results of measurements are used in the curricula of a number of chemical disciplines, which are taught to students of ecology and biotechnology*

Keywords: *chemistry, environmentally, ecology, "green" chemistry*

Introduction. Chemistry of the third Millennium – the science of environmentally friendly materials, new energy - saving technologies and industries that are minimally harmful to the environment. High level of pollution of the territory of Ukraine industrial and household waste make it impossible for its further industrial development without a comprehensive solution to the problem of recycling these wastes into useful products. Experts-chemists, designed to effectively ecology invest industry aims to prepare a new area of knowledge that emerged at the intersection of chemistry and ecology – "green" chemistry. Research in this area actively developed

in leading universities of European countries, USA and Canada since the mid-twentieth century. More than 50 years in the leading universities of the world are preparing bachelors and masters in such specialties as "Environmental Chemistry" and "Ecology Management", with a complex of chemical and environmental knowledge.

Results and discussion. In the first years of independence of Ukraine and leading universities of the country did not prepare such specialists. Only as a result of reviewing the teaching staff of the faculty of chemistry of national University with experience of European, American and Canadian colleagues in training specialists in the field of green chemistry at the Department of inorganic chemistry was established specialty "Environmental chemistry", which aims to prepare bachelors and masters, which is of higher chemical education with knowledge of modern methods of analysis of environmental objects, the chemistry of the Geosphere, the foundations of industrial environmental management and auditing, methods of obtaining environmentally friendly materials, energy - and resource-saving technologies and waste processing technologies.

Logically inscribing courses for bachelor students who have chosen this direction of study in the curricula of classical chemical education, the total number of courses in this specialization is divided between the last 4 semesters of bachelor training with a gradual increase in study hours from semester to semester. At the same time, bachelor students, listening to such academic disciplines as "Methods of monitoring environmental objects", "Chemistry of the atmosphere", "Chemistry of natural and waste waters", "Ecological problems of Ukraine (Fig. 1 ,2) (with elements of radioecology)", "Environmentally hazardous chemicals" and etc. master various theoretical aspects of green chemistry.

Whereas while studying at the master's program, students in the courses of this specialization "Fundamentals of modern waste management", "Environmental management and audit", "Migration of anthropogenic pollutants", "Environmentally

friendly technologies” learn to combine theoretical knowledge with the possibilities of their practical application.

The problem of the industrial scale of all developed countries of the world is the destruction of metals and their alloys under the influence of the environment. Atmospheric corrosion causes great damage to structures operated outdoors. The degree of aggressiveness of the influence of the environment on the compositions in atmospheric corrosion depends on their composition, type, concentration of harmful impurities and gases present in the air, humidity and duration of stay in the environment. Since copper and molybdenum (Cu-Zr-Y)-Mo composite materials are widely used as electrocontact materials of various purposes [1-4], working in atmospheric conditions contaminated with harmful emissions, it became necessary to investigate their corrosion resistance in conditions that mimic the environment.

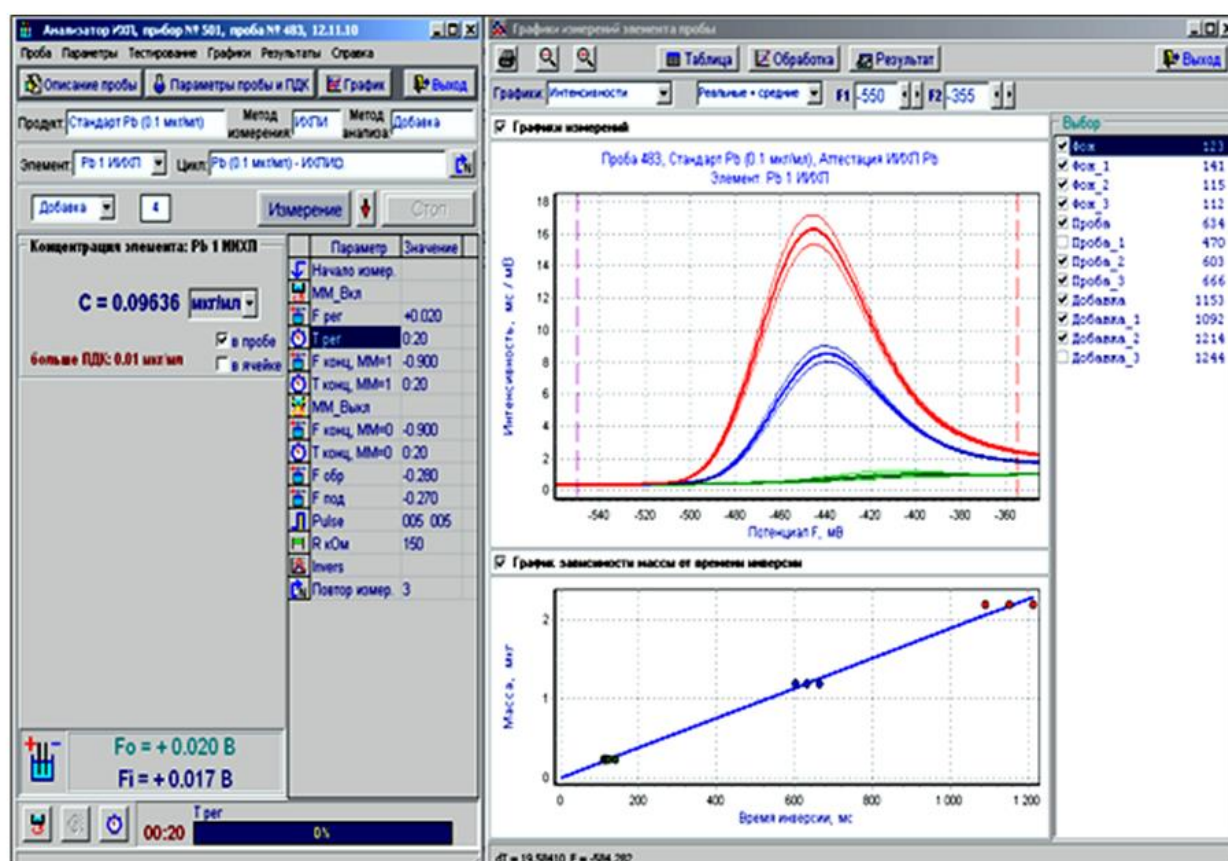


Fig. 1. – IHP measurement of standard background solution with concentration of Pb.

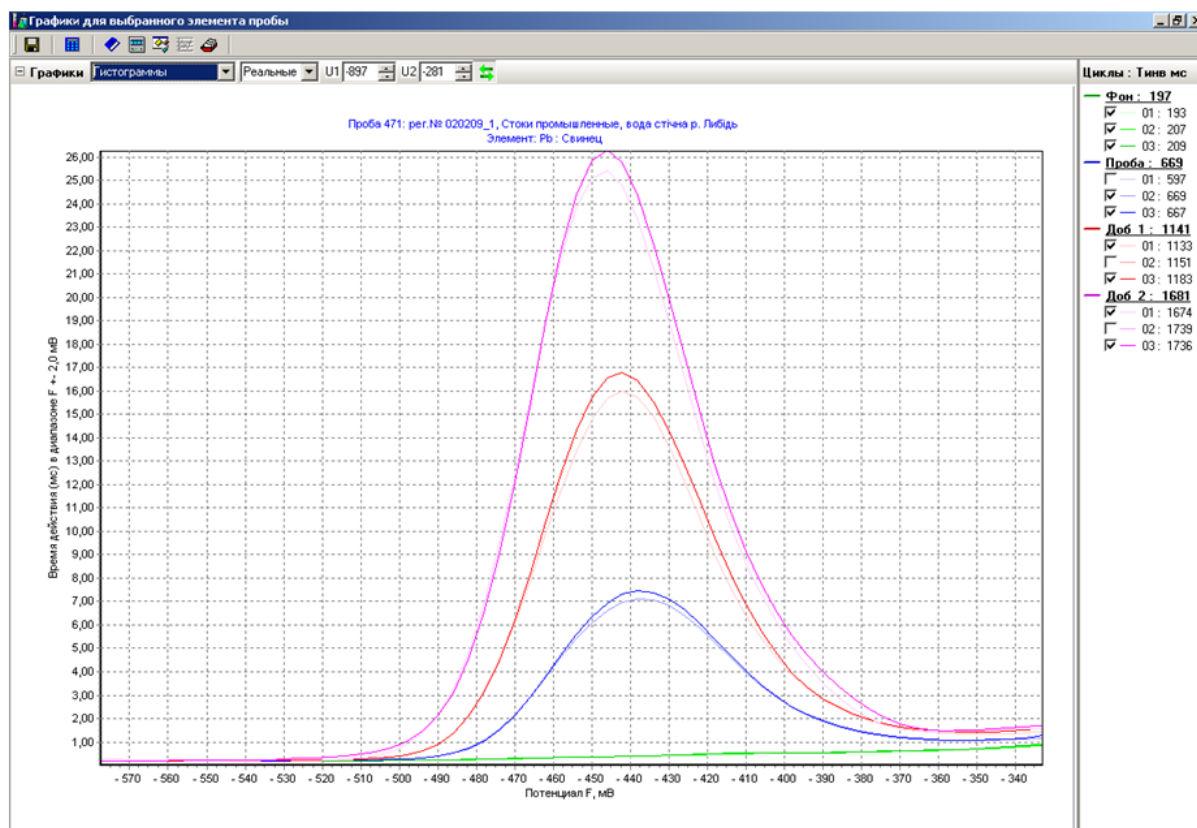


Fig. 2. – IHP measurement of standard background solution with concentration of Pb (n+att.).

Annually, the amount of SO_2 released into the atmosphere from the combustion of fuel is 8% (wt.), which is about 90 million tonnes of this harmful gas in the air space. With increasing humidity, corrosion processes are greatly accelerated. In this regard, the study used distilled water, which corresponds to 100% humidity, saturated SO_2 and CO_2 at $\text{pH} = 6.7$. Composite materials (CM) (Cu-Zr-Y) - Mo were obtained by electron-beam evaporation of Cu and Mo from two independent crucibles, followed by condensation in a vacuum of mixed steam flow on a stationary substrate with a diameter of 800 mm, made from C 3 at $800 \pm 3000^\circ\text{C}$ [5].

Objects of the study were samples of material (Cu-Zr-Y)-Mo with molybdenum content up to 12% by weight, zirconium and yttrium up to 0.8% by weight. Studies of the structure of the condensate by thickness after testing in distilled water, saturated with CO_2 , showed that the samples are characterized by a change in

the molybdenum concentration, and when approaching the surface, the molybdenum concentration decreases from 15.74% wt. up to 1.24% by weight in the film on the surface of the condensate. The oxygen content of the condensate volume is 0.26%, while at the sample surface it reaches 16.68%.

The samples contain carbon impurities in the amount of 0.39% wt. On the film surface, the concentration of carbon increases to a maximum of 22.59% of the mass. due to the presence of carbon dioxide in the corrosive medium, which promotes the formation of basic salts of type $(\text{CuOH})_2\text{CO}_3$ on the surface. The results of structural and micro-X-ray spectral studies of the film surface also indicate an increased carbon content on the film surface, while at the same time the molybdenum concentration is minimal. The amount of carbon on the surface is almost independent of the content of molybdenum in the condensate and varies in the range of 4.27-10.17% wt.

The presence of oxygen on the surface indicates the formation of an oxide film. X-ray diffraction analysis of the surface of the film showed that the main components of the film are copper and copper oxide Cu_2O , in addition, molybdenum is present, the amount of which increases with its content in the condensate. The presence of molybdenum helps to reduce the protective properties of the film formed on the surface of the condensate and corrosion is accelerated.

Studies have shown that the corrosion resistance decreases with increasing molybdenum concentration. X-ray reflections show that the surface layer increases the content of molybdenum and oxygen, while the copper - decreases. to the surface, it is ionized and when interacted with oxygen from the solution forms on the surface an oxide film that has no protective properties, and the corrosion process extends deep.

The given reflections of the components confirm the mechanism of corrosion processes, which is the same in different environments: during the formation of a galvanic vapor, copper - molybdenum is more active metal - molybdenum diffuses to the surface, ionizes and interacts with oxygen from the solution to form an oxide film, which has power on the surface. the process of corrosion extends deep.

The intensity of corrosion damage, as shown by the study, increases when tested in different media in the following sequence: the lowest – in distilled water, then - SO_2 and the highest - in CO_2 . This is evidenced by the nature of the damage and also by the intensity of oxide formation on the (Cu-Zr-Y)-Mo condensate surface. This trend persists for CMs with different molybdenum content.

Corrosion resistance decreases in all test media with increasing molybdenum content in the samples. The presence of molybdenum oxide (VI) on the surface of the specimens reduces corrosion resistance, since the molybdenum oxide film is of low integrity and cannot perform protective functions. In this regard, the corrosion resistance is the lowest for the material (Cu-Zr-Y)-Mo with the highest molybdenum content in CO_2 .

Conclusion. These results are confirmed by gravimetric studies of CM (Cu-Zr-Y)-Mo in different media. On the basis of gravimetric studies, the weight and depth corrosion rates were calculated and the corrosion resistance score was determined (Table 1). From the results of the study, we can conclude that the highest mass losses are observed in distilled water, saturated with CO_2 , which corresponds to the lowest corrosion resistance score. One of the methods of increasing the corrosion resistance of CM (Cu-Zr-Y)-Mo is the additional doping of the copper matrix with metals that are part of the bronze.

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NIZAMI GANJAVI AS ONE OF MASTERS OF WORD OF THE EASTERN LITERATURE

Sadraddinova Taira Nariman

senior lecturer, taira.sadraddinova@mail.ru

Jahangirova Goyerchin Valyaddin

senior lecturer, cahangirovagoyercin@gmail.ru,

Mamedova Arzu Edil

teacher, mmmmdva66@gmail.com

Sumgait State University, Sumgait, Republic of Azerbaijan

Abstract. *An outstanding representative of world literature, a brilliant Azerbaijani poet and thinker Nizami Ganjavi is one of the unique personalities who have opened a new page in the history of the artistic thought of mankind. The bright heritage of the great master, which has become an integral part of the spirituality of the Azerbaijani people, has occupied a worthy place in the treasury of unique cultural values for many centuries. The great master of word Nizami Ganjavi was brilliantly educated. His poems testify not only to an excellent knowledge of Arabic and Persian literature, but also mathematics, medicine, theology, interpretations of the Koran, Islamic law, Christianity, Judaism, Iranian myths and legends, ethics, philosophy, astronomy. Nizami's knowledge in the field of astronomy amazes even modern specialists. In his poems "Leyli and Mejnun", "Seven Beauties" lists and professionally characterizes the heavenly bodies, many of which became known to European science only after the discovery of the telescope.*

Keywords: *heritage, humanity, thinker, fervor, anthology, mankind, express, reflect, wisdom, manuscript*

The 880th anniversary of Nizami Ganjavi, who is considered one of the genius poets and a thinker of the Oriental poetry, is taken into account widely to celebrate in Azerbaijan. By the relevant decree of the President of Azerbaijan, 2021 has been declared as the 'Year of Nizami Ganjavi' in the cultural history of our country. A number of arrangements are planned to hold on this remarkable event. That is why it's been taken into account to organize scientific conferences, seminars and round tables dedicated to the 880th anniversary of the great thinker and poet, to arrange book exhibitions reflecting his artistic heritage, to create "Nizami Ganjavi Auditorium" within the framework of the action plan. Lectures on Nizami's life and creativity literary and artistic nights, competitions and Olympiads are planned with the participations of students, and meetings with students and scholars who studies Nizami's heritage are being held during the year.

Nizami Ilyas ibn-Yūsuf known to the world by the name Ganjali was born in 1141 in the ancient city of Ganja, which was a Near and Middle Eastern centre of science and culture those times in Azerbaijan and a capital of the Azerbaijani Atabegs' state (1136-1225). The young Ilyas lived and created in Azerbaijan throughout his life. Brought up in the environment of Ganja, this allowed the future poet to study developments in science and philosophy.

The son of the Azerbaijan land, openly expressed his love for his native Turks in his works and distinctly reflected his pride in his ethnic origin.

Nizami's whole creation is imbued with a love of Turks and of belonging to the Turks. Much research has been done on this, leaning heavily on the poet's own works. Many of his grandest images are those of Turks and others' positive human features are compared with those of Turks [3].

The image of Shirin in the poem Khosrow and Shirin presents plenty of examples.

Mahin Banoo was the ruler not only of the Arman state, but also of the states of Arran, Mugan and Berda, all part of the present Republic of Azerbaijan, as well as the

Abkhaz state, now part of Georgian territory. Arman was merely the mountainous part of this state, which was used as summer pasture.

The regions of Mahin Banoo's state are described like this:

Nesheste khishra dar havayi

Be har fasli mohayya kerde jayi

Be fasla gol be Muganast jayash

Ke ta sarsabz bashad khake payash

Be tabestan shavad bar kuha Arman

Khoramad gol be gol kharman be kharman

Khamsa of Nizami, British Library

Be hengama khazan ayad be Abkhaz

Koned bar gardana nakhjir parvaz

Zamestanesh be Berda meylchirest

Ke Berdara havaye garmsirast

Translation:

(Mahin Banoo) in every climate and in every season

Chooses a certain place for herself.

In the season of flowers she goes to Mugan

To set foot on the verdure

In summer she moves to the Arman mountains,

In autumn comes to Abkhaz

In winter prefers Berda [1, p.127-136].

In the poem Khosrow and Shirin, Nizami repeatedly calls Shirin and the people around her Turks. In part of the poem, Mahin Banoo, while instructing Shirin compares Khosrow with, the legendary Iranian ruler Keykhosrow, and themselves with Afrasiyab, the legendary Turk, leaving no room for doubt that both Mahin Banu and Shirin are Turks. The poet presents this argument on behalf of Mahin Banoo:

Gar u mahast ma niz afitabim,

Va gar keykhosrovast Afrasiyabim.

Translation:

If he (Khosrow T.K.) is the Moon we are the Sun

And if he is Keykhosrow we are Afrasiyab [4].

Nizami's love for his native Turkish nation was so strong that even in the poem *Leyli and Majnun*, based on an Arab legend, he depicted Leyli and the beauties around her as Turks. In one part of the poem, while describing his female heroes, the poet writes:

Leyli went out of her apartment

She was surrounded like a gem by a group

Of beauties with the honeyed lips of her tribe

They were called Turks who lived in Arabia [2, p.96].

The love for the Turkish nation in the poet's last works, *Seven Beauties* and *Iskendername*, is revealed overtly in the images of Fitna, Nushaba and a Chinese princess (in fact a Turkish princess) presented with great love for the Turkish image. Moreover, the poet calls his favourite hero, Iskender a Turk with the Rum (Roman) crown.

In *Seven Beauties*, he calls himself Turk, a symbol of whiteness and purity, but the ignorant people around him are referred to metaphorically as black, Habashes (Ethiopians) he says *Torkiyemra der in Hebesh ne khervend* (Among the Habash, nobody sees my Turkish origin) [6].

Nizami, who deals extensively with social motifs and political problems in the poem *Treasury of Mysteries*, cites an example of medieval Turkish state structure for the ruler of his time and writes:

Doulata torkan ke bolandi gereft

Mamlakat az dad pasandi gereft

Translation:

When the state of the Turks was rising

It was liked because of its just management.

Nizami did not hide his love for Turks as his native people [5].

Azerbaijan's literature is a unique spiritual treasure-house for its people and there is no doubt that Nizami Ganjavi is one of the greatest representatives of this literary heritage. His works, with their unique poetic innovations and universal themes, have transcended borders to influence the literature of distant lands.

Nizami was not satisfied with just the deep intellect and poetic talent gifted by God. Throughout his lifetime he pursued knowledge diligently and doubled his experience with his poetic talent; these two great attributes contributed to his scientific and philosophical research into the happiness of the human being.

Nizami Ganjavi combined philosophy and poetry with history and legend to create a literary legacy that resonates to this day. Nizami received an exemplary education that included science, mathematics, Islamic theology, history, philosophy, ethics, and Persian and Arabic literature. As the poet had a good knowledge of all the sciences of his time and especially dealt with the religious and philosophic works and sects, it is clearly seen in his poems. Nizami Ganjavi knew perfectly well the works of sectarian scientists of the Near East and that besides the activity of Azerbaijani poets, he was interested in the creations of Arabian, Persian poets. His education is often reflected in his poetry.

Nizami Ganjavi, who began by writing lyrics in short forms *gasida*, *gazal*, *rubai*, soon compiled an anthology, *Divan*, and gained fame as a favourite and esteemed poet not only in the Near and Middle East, but also on distant shores. Comparing various manuscripts of his *Divan* in Azerbaijani, preserved in different libraries, it becomes clear that the poet went through a very complicated and contradictory way while creating his works. Nizami beginning his literary power with love verses, created wonderful works devoted to the political, social and didactic problems of his time and became the founder of the philosophic poetry coming into existence in the history of the Azerbaijani literature.

It is no accident that Muhammad Ovfi, who was engaged in literary activities in the palace of the Turkish sultan Eltutmush in Delhi, praised Nizami's art in his narration *Lubabul-elbab* (The jewel of the select). The Indian poet Amir Khosrow

Dehlevi (1253-1325) who lived a century after Nizami and who wrote his works in the Dari (middle Persian) language, as was traditional at that time and who was born into the Lachin family of Turks, was one of the first world-known poets to answer the Azerbaijani's Khamsa.

The genius son of Azerbaijan, shed the light of his creative synthesis of progressive humanist thought and inimitable poetic art across the world over the following centuries. After devoting his youth to the study of sciences, he wrote his first poem when he was already 30 years old. He inscribed his name forever in the annals of art with his five poems, *Treasury of Secrets* (1175), *Khosrow and Shirin* (1180), *Leyli and Majnun* (1188), *Seven Beauties* (1197) and *Iskander-Nameh* (1203), presented to the world of literature over the next 30 years.

Nizami's works' influence extends beyond Eastern tradition. If we go back to the Middle Ages at the time of the troubadours and crusaders of the 11th-13th centuries, we discover that much of Western courtly literature can be traced to Oriental literature which, in turn, has influenced more recent works such as the 13th century German epic by Gottfried von Strassburg "*Tristan und Isolde*," the early 13th century French fable, "*Aucassin et Nicolette*," as well as William Shakespeare works of the 16th century and innumerable others.

In reviewing world literature we see that two principal poets used the strong humanistic influence of art to rise above a cultural environment generally defined by the mysticism and prejudices of patriarchal feudalism. One of these was Nizami Ganjavi, the greatest representative of the Eastern Renaissance, who was born in the 12th century in Sunny Azerbaijan and represented the quintessence of world literature and philosophy in his immortal work *Khamsa* (Five) via the aesthetic power of his art. The other was William Shakespeare, the greatest representative of the Western Renaissance, who was born in Foggy Albion more than 400 years later to become a child of humanity. Even now, in times when science and technology are no longer developing in linear series but exponentially, we see how mysticism prevails proudly

over healthy minds and it is impossible not to be amazed by the clear logic and consciousness in the works of these two brothers in art and intellect.

"Leyli and Majnun" is an immortal love story sometimes compared to "Romeo and Juliet" though it predates Shakespeare in oral tradition by more than 1,000 years. The 8,000 lines of verse that comprise Nizami's poem "Leyli and Majnun" give a very balanced description of the destiny of the unfortunate lovers, caught between tragic mysticism and their own true feelings and attitudes. Nowhere is real life overpowered by supernatural and cosmic considerations. Every element present in the human soul is kept alive in Nizami's vision, who never tries to evade these contradictions. Today, it is still one of the most popular epics of the Middle East and Central Asia among Arabs, Turks, Persians, Afghans, Tajiks, Kurds, Indians, Pakistanis, and, of course Azerbaijanis.

Nizami is one of those rare representatives of world literature who were ahead of their time, whose main purpose in their life and work was to serve their people, defend them against oppression, injustice and harm and to implement their mission to the highest level.

Nizami was neither a court poet nor a politician. He was a humanist who described nature with fervor and human passions with sensuality and perception. He looked at the destiny of mankind with a view to establish universal justice in this world. His facility with the Persian language is extremely sophisticated and as difficult to understand for the average educated reader as is Hafiz' poetry.

East humanism, the approval of human dignity and singing of the happiness of mankind have an ancient history. Thus in the XII century such great masters of word as: Nizami, Khagani thought of lot of mankind and describing Man as a mighty and glorious existence they called Man the noblest of all creatures. In their poems they sang of the ability of Man capable of making miracles and of revealing the mysteries of the Universe, as well as of the might of science and skill.

Humanity is the motif at the very heart of Nizami's poetry and the poet regarded it as his sacred mission to apply every ounce of creativity to the service of

his people. In this lies the immortality and eternal youth of Nizami's art through the centuries. He was a major proponent in the use of vernacular language in poetry, introduced new style concepts, and founded a new literary form. His literary impact spanned Iran, Turkey, Central Asia, and India, where poets imitated Nizami's *Khamsa* in form and theme. Later poets such as Jami, Amir Khusro, Alisher Navoi, and Fuzuli were all heavily influenced by Nizami. Known as a poet, scholar, and philosopher, Nizami is recognized for using his poetry to examine the development of mankind in society. The poet represented the quintessence of world literature and philosophy in his works. His romantic epic poems are full of passionate emotion and philosophical commentary on humanity. Considering Man to be the primordial and eternal creature, Nizami is a master of word who raised the Azerbaijani poetic and literary language to a high level and expressed in his works the most progressive ideas of the age [7].

Nizami's influence on Azerbaijani literature lasted long after his death. By their progressive features Nizami's works played an important role in the formation of the national poetry in the Azerbaijani language. Being a poet, who had gone through poetic activity marked for many complexities and contradictions, he laid the foundation of the philosophic poetry coming into existence in the Azerbaijani literature. He continued and developed the humanist ideas. So that, Nizami raised his voice against feudal yoke and oppression, he attempted to awaken progressive ideas. He called upon the people to estimate the existing religion properly so that they might discover the mysteries of the Universe and Life.

Nizami's works have been translated into Western as well as into Eastern languages from time to time and played their role in humanity's moral development.

So, we all must be grateful to the genius Nizami Ganjavi, for the many gifts he has given us, for the inspiration he has be queathed to the artists of the world, for the wisdom that is buried in his multi-layered works and for the profound humanity that calls to the better angels of our nature through the centuries and into the future. The works of the poet laid a strong foundation for the great Nizami school of literature

which continues to exert its influence nowadays. The rare manuscript copies of his works are kept and preserved like precious pearls in famous libraries, museums and literary foundations in cities such as Moscow, St. Petersburg, Baku, Tashkent, Tabriz, Tehran, Cairo, Istanbul, Delhi, London, Paris and others. Our rich literature is well-known all over the world, and we can be rightly proud of our great poets as, Imaddedin Nesimi, Khagani Shirvani, Muhammad Fizuli, Nizami Ganjavi, etc.

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LANDSCAPE MANAGEMENT ISSUES (LANKARAN NATURAL REGION, AZERBAIJAN)

Salayev Samir

doctoral student

Lankaran State University, Azerbaijan

sinaq2016@gmail.com

***Abstract.** Due to the typical geological, geomorphological, climatic and vegetation complexity of the territory of Lankaran region, located between the northern latitudes of $38^{\circ} 24'$ and $39^{\circ} 31'$ and the eastern longitudes of $47^{\circ} 59'$ and $49^{\circ} 14'$, different natural territorial complexes - landscapes are formed. Landscapes, emerged due to the decrease of precipitation in high mountains, have created natural signs in the territory of Lankaran natural region that are different from signs of other mountainous regions of the republic. This difference is also due to the fact that these landscapes are exposed to different degrees of human anthropogenic impact. If proper and planned management of both agro-landscapes and other natural landscapes is not regulated, the process of territorial expansion of degraded, sharply transformed landscapes, where multifaceted agricultural work are being carried out, will become more intensive and large-scaled. In accordance with the scientific-theoretical point of view and methodology of the problems set for the research, scientific researches on the subject were carried out in accordance with the field-laboratory, generalization-final stages. It is clear from the above examples that the regulation of balanced development in the landscapes of the region and their effective organization are very important issues today. One of the most important conditions of the multi-stage landscape management system implemented in this direction is to determine the extent of landscape loading by anthropogenic impacts. It*

is very important to determine the norms and average limits of anthropogenic loading in each landscape type. After that, it is possible to take concrete measures for the effective organization of the natural landscapes of Lankaran region.

Keywords: *Agrolandscape, agro-irrigation, transformation, anthropogenic complex, ecological problem, differentiation, landscape*

The complex geological, geomorphological, climatic and vegetation cover of the territory of Lankaran region has a great influence on the formation of various natural territorial complexes - landscapes in the territory of Lankaran region. The study of natural landscape complexes is very important both from the point of view of the correct placement of separate crops and plant varieties within the territory, as well as in taking comprehensive measures to protect natural ecosystem. Due to a decrease in the amount of precipitation as it rises from the shores of the Caspian Sea to the high mountainous zone, the inversion of the Talysh Mountains expresses an anomaly of landscape belts, revealing a landscape sequence that is different from other mountainous regions [7, p. 220-228]. Modern landscape complexes of Lankaran region have lived a long period of historical development. The intensity of neotectonic processes and the inversion phenomenon typical for the region played an important role in its formation. Landscape inversion is more pronounced in the Talysh mountains. Here, the anomaly of the landscape belts is associated with a decrease in precipitation depending on the altitude. In the foothills, where landscape anomalies are observed-Hirkan forest landscapes, in the lower and middle tiers of the middle mountain range- broad-leaved forest landscapes, in lowlands and upperlands-forest-steppe (1600-2400 m), xerophytic mountain-steppe and shrub landscapes are widespread [1, p.136]. It should be noted that the landscape inversion in Lankaran region is more pronounced on the eastern slope of the Talish Mountains. It becomes evident that along with the spread of different landscapes as a result of these natural factors, there are different degrees of human anthropogenic impact on these landscapes. This requires proper and planned management of both agro-landscapes

and other natural landscapes [7, p. 184-216]. Otherwise, as a result of multifaceted and further expanded modern agricultural work, the process of territorial expansion of degraded, unusable and sharply transformed landscapes will become more intensive. Referring to the existing research methods, we studied and assessed the soil cover of the following landscape complexes in Lankaran region (Figure 1). Anthropogenic impacts on different natural landscapes of Lankaran region gave different results in different landscapes.

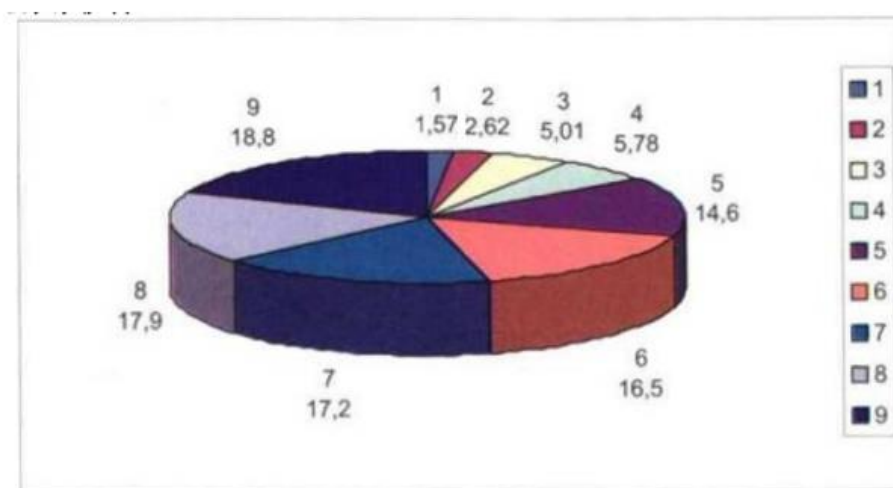


Figure 1. Structure of landscape complexes in Lankaran region (in%)

1 - intensively fragmented high mountain meadow-steppe landscape; 2 - broad-leaved forest and sub-forest meadow-shrub landscape of severely fragmented middle mountains; 3 - mountain-xerophilous (friganoid) landscape of the middle mountains; 4 - broad-leaved forest (Hirkan type) and meadow-shrub landscape of the middle and weakly fragmented low mountains; 5 - landscape of medium and weakly fragmented lowlands and foothill xerophilous forests and landscape of mountain steppes and bushes of the forest; 6 - meadow-forest landscape of weakly fragmented lowlands and plains; 7 – landscape of low mountains, foothills and plains

I. Areas of high natural altitude of Lankaran natural region, located above the absolute height of 2000 m, dominated by intensively fragmented meadow-steppe landscape: Unlike the Greater Caucasus and Lesser Caucasus anticlinoriums, nival and nival-glacial landscape types are not observed in the highlands of the Talysh, Peshtasar and Burovar ranges. For this reason, the meadow-steppe landscape

of the highlands was separated as the first zone. The annual solar radiation in the area is 135-140 kcal / cm. Therefore, there is not enough moisture all year round. Also, the average annual temperature in the meadow-steppe landscape zone does not exceed 2-6 ° C. Researcher R.V. Kovalyov in his researches called this zone temperate-cold semi-humid subalpine meadow-steppe zone and within the region he separated the Gizyurdu region, which consisted of mountain meadows and steppes. [4, p. 60-63]. The lands of the meadow-steppe landscape are used as hayfields and summer pastures, as well as for planting cereals, legumes and so on. As far back as the last century, ecologists and botanists noted that in order to maintain ecological stability and balance in natural pastures, it is impossible to graze more than two heads of cattle per hectare. Otherwise, the ground cover may be damaged. However, we see that in the mentioned areas in the course of daily agricultural work at least on average 7-8 heads of cattle are grazed per hectare by the local population engaged in cattle breeding. There are cases of intensive grazing of animals against the rules. In addition, in this type of activity, which is more productive during the sowing works, there are problems such as increasing the intensity of soil erosion in plowed sloping areas [9, p. 41-48].

II. Broad-leaved forest and meadow-shrub landscape of severely fragmented parts of the middle mountains. In Lankaran region, this landscape belt is spread at an altitude of 600-800 m above sea level, up to 1600-1800 m. This zone is characterized by sharp fragmentation of the relief due to tectonic-erosion processes. The slope of the surface is 5 ° -30 °. The climate here is humid and warm, the average annual temperature is 10 ° C and the amount of precipitation is 1200 mm on average. The annual amount of solar radiation is 135-140 kcal / sq.cm. Unlike the meadow-steppe landscape, this landscape is well supplied with moisture. As a result, there are favorable conditions for dense vegetation. Vegetation in this zone is mainly represented by broad-leaved oak, hornbeam and beech forests. Deforestation in the broad-leaved forest landscape of the sharply fragmented middle mountain range observed in the areas with an absolute height of about 600 m in the upper mountain

range of Lankaran region also leads to the formation of meadow-bush landscape in areas “free” of forests. These forests, located in the middle Talysh mountains, are of great soil-protective and water-regulating importance, and due to their degradation, they do not allow the formation of water channel by retaining some of the rainwater during atmospheric precipitation. Thus, it affects the regime of large rivers in the region, such as Lankaranchay, Astarachay, Vileshchay, Tengerudchay, Bolgarchay, which leads to some unexpected changes in all areas where rivers flow. This results in the violation of the work plans of the people who regulate their activities according to these rivers. It should also be noted that the protection of forests in Lankaran region, as well as around the world, plays an irreplaceable role in protecting our lands from erosion, desertification, steppification, strong winds, abnormal hurricanes and, most importantly, in the formation of areas such as forest substrates that regulate soil moisture [10, p. 60-67].

III. Mountain-xerophyte landscape of the middle mountains. In Lankaran region, this type of landscape is widespread on the south-western slope of the middle mountain range and the height of the area fluctuates between 1500-2000 m. Climatic indicators of this landscape type vary as follows: annual amount of solar radiation is 135 kcal / cm²-, average annual temperature is 10 ° C, average annual precipitation is 250 mm. Low precipitation leads to a lack of moisture. The period of snow cover is about three months. The density of the river network is very low: 0.30-0.50 km / sq.km. This is due to the lack of favorable conditions for the normal flow of the river. The production potential of these lands is not great. It is often used as a summer pasture. In recent years, the increase in livestock, uncontrolled grazing has naturally led to the acceleration of erosion processes here. Although the soil suitability is low, the application of mountain farming, contour and reclamation as well as agro-technical and phytomeliorative measures against erosion can help restore and increase fertility in this area [4, p. 132-141].

IV. Medium and weakly fragmented lowland broad-leaved forest and meadow-shrub landscape. This landscape type covers the area of 800-1000 m in

height. The area is characterized by a warm climate and high humidity. It should be noted that the amount of precipitation in the north of Lankaran region is gradually decreasing. The driest period in these areas, typical of the subtropical climate, is summer. The number of sunny hours in the area is more than 2,200 hours. As in the broad-leaved forest landscape of the severely fragmented middle mountain range, the forest biogeocenoses in the described landscape type have been subjected to human economic activity [6, p.138]. As in other areas, vegetation and soil cover in this landscape have changed as a result of human activities. In particular, the anthropogenic impact on the Hirkan forest complex not only destroys vegetation, but also has a serious impact on the water regime of important rivers in the region [2, p. 161-165]

V. The landscape of medium and weakly fragmented low mountains and foothills xerophilous forests and mountain steppes and bushes from the forest.

The landscape of steppes and bushes in the middle and weakly divided lowlands is found in the north and northeast of the region. The high temperature regime of these areas differs from all other areas of the region. Unlike the previous landscape type, this landscape type is distinguished by its dryness, although the heat supply is the same. The amount of precipitation varies between 400-600 mm. The amount of solar radiation is 129-130 kcal / sq. Cm. More arid conditions are noticeable here. This type of landscape is characterized by the most anthropogenic impact among the landscapes of Lankaran region. The reason for this cannot be natural conditions. Otherwise, the human density would be lower, and as a result, the anthropogenic impact would be reduced. The main reason for this density is the relatively smooth relief in these areas, proximity to major transport routes, etc. Due to the weak anti-erosion measures in these landscapes, which are more pronounced in the Jalilabad region, there is a problem of leaching of the topsoil and a decrease in soil fertility. As a result, it significantly reduces the economic efficiency of the agricultural process. [10, p.75-83].

VI. Meadow-forest landscape of weakly fragmented lowlands and plains.

Areas with relatively smooth, sparsely fragmented lowlands and plains dominated by meadow forest landscape type attract attention with rich vegetation, despite the hot and dry summer. It is one of the areas where irrigated agriculture is developed in summer and rained agriculture in the cold season. The facts from the previous research materials on the location of fresh groundwater close to the surface in the mentioned areas, and in connection with this, the distribution of wetlands and plain forests are noteworthy. This is due to the fact that over the past century anthropogenic impacts, such as carrying out drying works, severe deforestation and expansion of settlements in the south of the Lankaran lowlands in order to prepare the land for planting, have resulted in complete disappearance of this type of landscape. Similar shapes in the form of "fragments" are found in some parts of the Hirkan forests. It should be noted that in recent years, the planting work in these areas, which is in constant need of irrigation, especially the construction of tea plantations, is yielding interesting results. Thus, the level of fresh groundwater can rise as a result of increased water supply to these areas, which are dominated by podzolic and yellow-clay soils. As a result, it may be possible to rehabilitate previously swampy territories in some areas [5, p. 125-134].

VII. Steppe and dry steppe landscape of lowlands, foothills and plains.

This type of landscape is widespread in the north of Lankaran region, mainly in the north of Jalilabad administrative region. Due to the absolute height of the relief, this type of landscape is observed up to 500 m above sea level. The climate of the area where this type of landscape is spread, which corresponds to the territory of Jalilabad natural region, is characterized by moderately hot and dry summers. The amount of sunny hours is 2200 hours, and the total amount of solar radiation is 120-130 kcal / cm. The amount of possible evaporation in the area is more than 1000 mm [8, p. 247-265].

It is clear from the above examples that the regulation of balanced development in the landscapes of the region and their effective organization are very important

issues today. One of the most important conditions of the multi-stage landscape management system, implemented in this direction, is to determine the extent of loading of this landscape type by anthropogenic impacts. It is very important to determine the normal and average limits of anthropogenic loading in each landscape type [3, p. 19-22]. Only then concrete measures can be taken to effectively organize the natural landscapes of Lankaran region. As a result, the following suggestions can be made to prevent or minimize the problems mentioned above:

- strict observance of irrigation rules and regimes in the relevant landscapes of the lowlands, restoration of previously used efficient irrigation systems;

- restriction of construction of settlements on suitable land plots, main plantations, because Lankaran region is one of the least provided with useful lands in the country;

- development of special methods of combating linear erosion in high and medium mountainous areas, taking into account natural features, observance of proper plowing rules, planting of trees and shrubs, orchards in accordance with local climatic conditions;

- development of measures to combat ravine erosion in the lowlands and foothills, expansion of arable lands, even under irrigated conditions, in formerly swampy and now degraded areas, and, as a result, the expansion of plain forests by raising the groundwater level and thereby restoring the former natural state;

- in order to "optimize" anthropogenic impacts, equal distribution of the population in the region must be achieved. (It should be noted that state programs have already been launched in this direction to create conditions for the creation and development of agriculture, production and services in all regions. The creation of new jobs in all human-inhabited areas of the natural region will ensure the return of population or prevent leaving of the area, and as a result, the anthropogenic loading will be relatively evenly distributed throughout the region.)

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LABOR MARKET AND UNEMPLOYMENT IN KYRGYZSTAN**Samanchieva Aigul Sultanbekova**senior Lecturer of the Department
of Marketing, Commerce and Logistics

samasulsasf@mail.ru

+996702153964

Lecturer of the Department of

"Quality Management" of the

Faculty of Management and Business

Zhanysh Mahabat kyzy

m.chiderova@mail.ru +996700853517

Kyrgyz National University

named after Zh.Balasagyna

Abstract. *The labor market is formed under the influence of economic difficulties arising from a decline in production, an increase in the number of unprofitable enterprises, a reduction in the number of workers and unoccupied places. As a result, the problems related to employment of the population are becoming more acute in the economy, the employment opportunities of the population are becoming more complicated, which is why, as a social phenomenon, unemployment persists. The employed population of the Kyrgyz Republic has a high level of education, which is due to the existing educational system: almost every fourth resident has a higher education. This primarily depends on the fact that private universities have opened on the territory of our country, and they are ready to accept applicants without general republican testing (ORT). What, in this situation, leads to the fact that the applicant initially chooses the wrong university, since at the*

end he will not be able to find a job? The Ministry of Education needs to review the licenses of private universities, look at the dynamics over the past years, how many percent of graduates of private universities have found a job in their specialty. The Ministry of Education of the Kyrgyz Republic, together with universities, needs to hold a number of round tables together with employers that can offer those disciplines that will be useful to students in the future.

Keywords: *unemployment, labor market, qualification, labor force, capital market, capital turnover, real salary, nominal salary, capital market, capital, capital turnover, capital turnover, production time, circulation time, fixed capital, working capital, trading capital, physical depreciation, moral depreciation, depreciation rate, accelerated depreciation, industrial capital, loan interest, land rent, differential rent, absolute rent, monopoly rent, rent, land market, land price.*

Рынок труда формируется под воздействием экономических затруднений, возникающих из-за спада производства, роста количества убыточных предприятий, сокращения числа рабочих и незанятых мест. Негативно влияют также процессы внешней миграции. Вследствие этого в экономике становятся острее проблемы, касающиеся занятости населения, возможности трудоустройства населения осложняются, из-за чего, как социальное явление, сохраняется безработица.

Основным источником для получения необходимой информации о численности рабочей силы и безработицы является интегрированное выборочное обследование бюджетов домашних хозяйств и рабочей силы. Все эти данные можно найти на официальном сайте Нацстаткома Кыргызстана начиная с 2003 года (www.statkom.kg).

За последние пять лет ситуация на рынке труда в Кыргызстане изменилась это в первую очередь произошло в экономической и социальной сферах жизни республики. Даже, несмотря на рост численности населения в трудоспособном возрасте, уровень занятости за данный период снизился с

64,5% в 2015 году до 63,5% в 2019 году. По данным обследования, в 2018 году уровень занятости населения в возрасте 15 лет и старше составил 57%. При этом, уровень занятости мужчин на 28% превысил, по сравнению с женщинами данный показатель составляет 72%.

Во всех возрастных группах уровень занятости среди мужчин всегда превалирует по сравнению с женщинами, данный разрыв наблюдается в возрасте от 20-39 лет. В данном возрасте женщины чаще всего временно не работают в связи с рождением ребенка. Следующая возрастная группа 45-55 лет отмечается сближение уровня занятости мужчин и женщин. Женщины данной возрастной группы, как правило, уже имеют взрослых детей, и могут спокойно работать (смотри диаграмму 1).

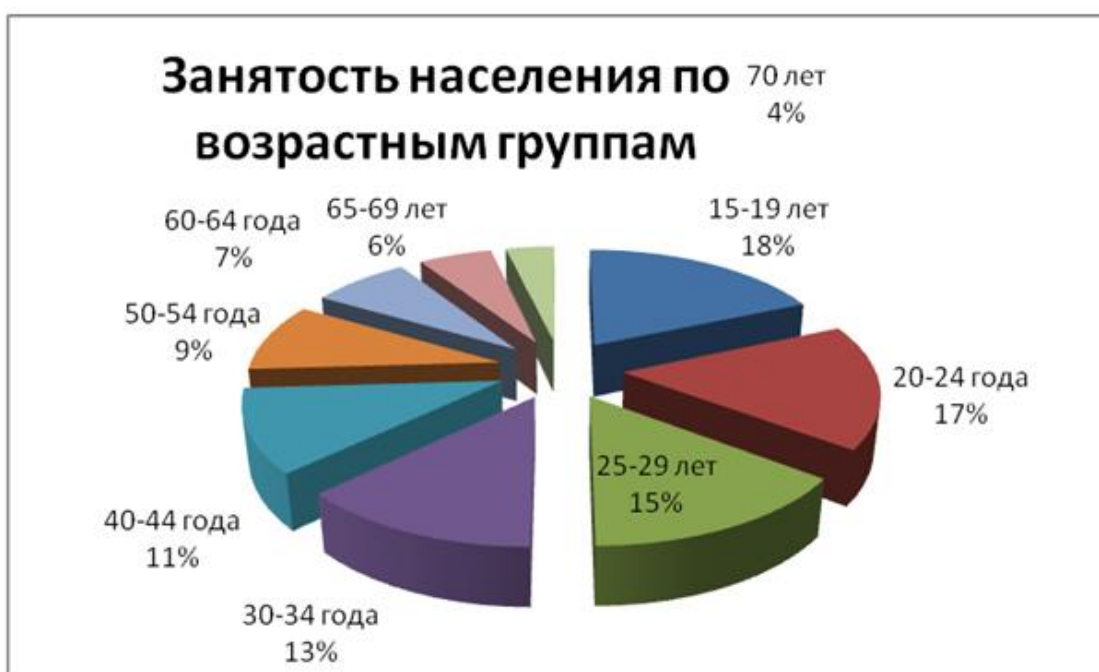


Диаграмма 1. Занятость населения по возрастным группам

(www.statkom.kg По данным интегрированного выборочного обследования бюджетов домашних хозяйств и рабочей силы в 2018г., в процентах)

В данной диаграмме можно видеть следующее что, наиболее многочисленными являются группы лиц в возрасте от 25 до 34 лет, на долю которых приходится 31% от общей численности занятых.

Занятое население КР имеет высокий уровень образования, который обусловлен сложившейся образовательной системой: почти каждый четвертый житель имеет высшее образование. Это в первую очередь зависит от того, что на территории нашей страны открылись частные ВУЗы, и они готовы принять абитуриентов без общего республиканского тестирования (ОРТ). Что, в данной ситуации приводит к тому, что абитуриент выбирает изначально неправильный ВУЗ, так как по окончании он не сможет найти себе работу? Министерству образования нужно пересмотреть лицензии частных ВУЗов, посмотреть динамику за последние года, насколько процентов выпускников частных вузов нашли работу по специальности. Есть поговорка "нельзя войти в одну реку дважды" это означает, что нашему государству нужно вернуться и посмотреть образование в период СССР. Как показывает практика образования в СССР всегда и будет оставаться на высоком месте, а именно в те года существовало несколько вузов (КГНУ, Политехнический, Аграрный, Медицинский), остальные были техникумы и училища. Для того чтобы поступить в вуз абитуриенту нужно было хорошо потрудиться был жесткий отбор.

Более высокий образовательный уровень занятых среди женщин предопределил сложившееся распределение женщин и мужчин по видам и группам занятий. В 2018 году в общей численности занятых среди женщин, имеющих высшее профессиональное образование, составляет 28%, мужчины составляет 20%, среднее профессиональное, соответственно 18% и 9%. После получения среднего общего образования, девушки имеют большее стремление продолжить обучения, так как возможности трудоустройства женщин, не имеющих специальной подготовки, ограничены.

Мужская занятость преобладает в таких видах деятельности среднего общего или основного общего (неполного среднего) образования, но при этом

необходима профессиональная подготовка. За пять лет в общей численности занятого населения доля работников предприятий, учреждений и организаций составляла в среднем 31%. Преобладающее число рабочих мест было создано у работающих по найму у отдельных лиц, а также в сфере индивидуальной предпринимательской деятельности (смотри диаграмму 2).

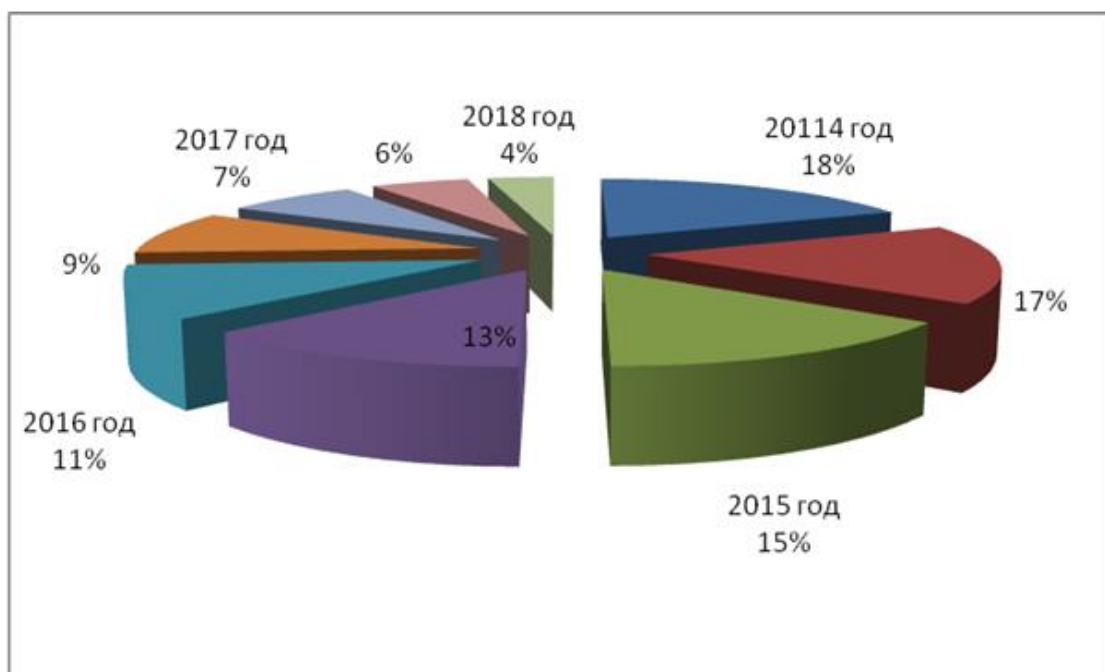


Диаграмма 2. Распределение занятого населения по месту основной работы

Из данной диаграммы видно, что изменения в группе лиц, работающих по найму у отдельных граждан. Их численность за последние пять лет выросло в 1,5 раза, составив в общей численности занятого населения в 2018 году 35%.

Изменения в распределении занятого населения по трем основным секторам за последние пять лет характеризовались сокращением доли занятых в сельском хозяйстве – 33% в 2014 году до 21% в 2018 году, и, напротив, ростом занятости в сфере услуг, соответственно, с 49% до 56%.

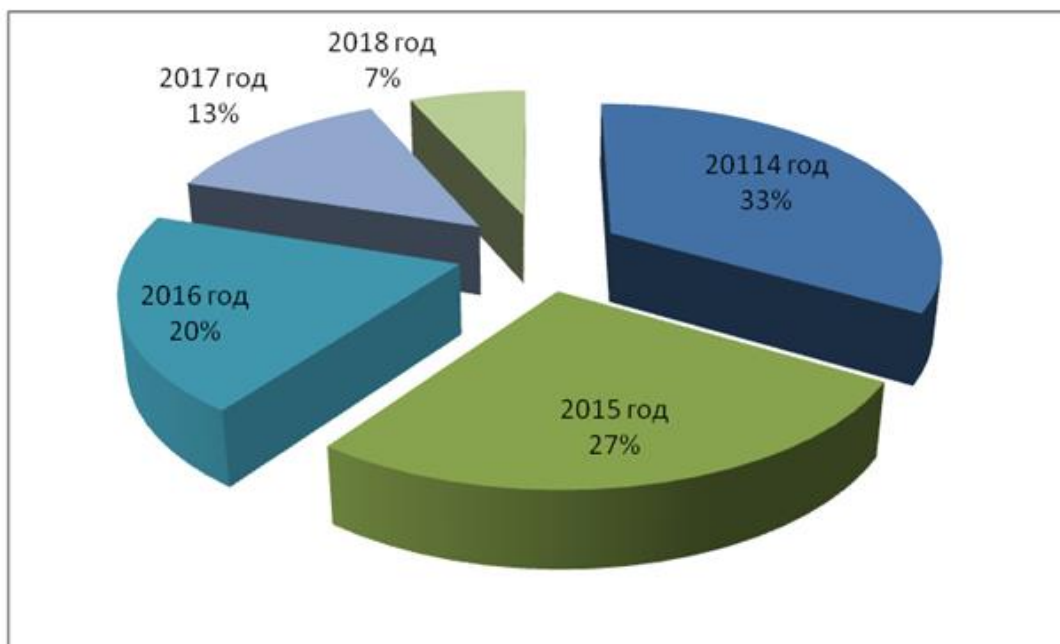


Диаграмма 3. Распределение населения по секторам экономики

Из данной диаграммы можно сказать следующее, распределение женской и мужской занятости по видам экономической деятельности имеет существенные отличия, обусловленные их разными физиологическими возможностями и сложившимися традициями.

Доля женщин среди занятого населения наиболее высока в секторе услуг и, особенно, в таких видах деятельности, как здравоохранение и социальное обслуживание населения 84%, сфера операций с недвижимым имуществом и образованием соответственно составляет 80%.

Высокий удельный вес мужчин сложился в отраслях производственной сферы: строительстве 98%, добычи полезных ископаемых 96%, транспортной деятельности и хранения грузов 95%, в сфере обеспечения (снабжения) электроэнергией, газом, паром и кондиционированным воздухом 91%.

Численность безработных, по итогам обследования рабочей силы в 2018 году, составила 166 тысяч человек, из них 57% составили мужчины и 45% женщины (смотри таблицу 1).

Таблица 1. Распределение безработных по месту проживания и полу

	Всего, тыс.челов ек	В общей численности безработного населения, в %		Уровень безработицы, в %		
		мужчины	женщины	Оба пола	мужчины	женщины
Всего	156,3	56,4	43,6	6,2	5,7	6,9
Городские поселения	61,1	61,9	38,1	6,5	7,2	5,7
Сельская местность	95,1	53,0	47,0	5,9	4,9	7,9

Как видно из таблицы 1, что уровень безработицы составил 6,2%. Среди женщин 6,9% были более значительными, чем среди мужчин 5,7%.

Напряженная обстановка на рынке труда в городах, где уровень безработицы составил 5,6%, тогда как в сельской местности 5,9%. В фермерских хозяйствах в сельскохозяйственных работниках принимают участие практически все работоспособные члены семьи. Возрастная структура безработных характеризуется, молодым составом среди них более половины приходится, на население в возрасте до 30 лет (смотри диаграмму 4).

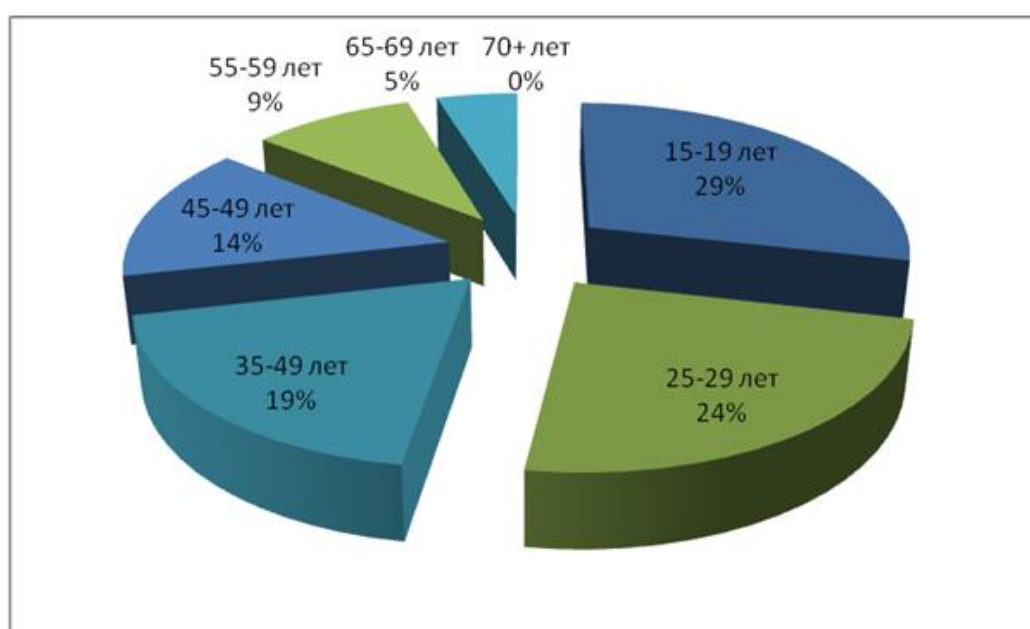


Диаграмма 4. Безработные по полу и возрасту

Из диаграммы 4 видно, что наибольших значений уровень безработицы достигает среди молодежи в возрасте 15-19 лет (13,9%) (www.statkom.kg). По данным интегрированного выборочного обследования бюджетов домашних хозяйств и рабочей силы в 2018г., в процентах). Но уже в возрастной группе 35-39 лет она снижается до 4,4%. Именно на начальный этап трудовой деятельности населения приходится наиболее интенсивный поиск работы, когда молодежь впервые выходит на рынок труда. Кроме этого, по сравнению с лицами старших возрастов, молодежь чаще меняет работу, так как находится в стадии поиска наиболее приемлемого для нее варианта. Многие студенты и учащиеся, наряду с учебой, также заняты поиском работы.

По данным Министерства труда и социального развития КР, к концу 2018 года численность зарегистрированных безработных составила 70,9 тыс.человек, что на 23,1% больше чем, на конец предыдущего года, и на 21,7% больше, чем на конец 2014 года. Рост численности таких граждан обусловлен вступлением в действие отдельных положений законов, касающихся социальной поддержки населения.

Не нужно также забывать и то, что Covid-19 привел к тому, что все страны закрыли свои все границы, в связи с тем что вызвал большой рост безработицы по всему миру. По прогнозам аналитиков из-за пандемии многие страны войдут в список самых бедных по всему миру? И поэтому нашему государству нужно в первую очередь решить такие проблемы, которые не решались в течении 30 лет независимости нашей страны. Такие как заново запускать заводы, изменить налогового законодательство в пользу предпринимательство, что сподвигнет выйти из теневой экономики. Выдачу льготного кредитования для предпринимателей, а также в оказании бесплатной помощи в постройки капельного орошения для сельского хозяйства, привлечения иностранного инвестора. изменить сознание наших граждан, что наша страна принадлежит каждому живущему человеку и каждый должен с трепетом относиться к своей родине.

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THE INFLUENCE OF THE PREMIX ON EGG-LAYING CAPACITY OF DUCKS OF BLAGOVARSKYI CROSS

Terzeman D.

postgraduate student

<https://orcid.org/0000-0001-9387-0555>

Odessa State Agrarian University, 13, Panteleimonovska Str.

Odessa, 65039, Ukraine

Abstract. *Feeding is the main condition for high productivity of ducks. It provides the need for metabolizable energy and nutrients according to modern standards. Ducks have an increased need for arginine, histidine, tryptophan, glycine, threonine and valine, therefore much attention is paid to the amino acid composition of feed in normalizing feeding. It is also important to consider the level of digestibility of the proposed feed. The feed nutrients digestibility depends on various factors and therefore varies considerably. In addition, the feed preparation for feeding has a positive effect on their digestibility (moisturizing, enriching, grinding, steaming and others). The nutrients digestibility is also affected by different levels of macro-, micronutrients and vitamins in the feed.*

It was found that when the developed vitamin-mineral premix was used in the diet of ducks of Blagovarskyi cross, the weight of eggs in the experimental group was higher by 5.15% compared to the control group, which in turn affected the growth of weight of egg components. However, no significant difference is observed in the percentage of egg components; no other differences in morphometric parameters of eggs were detected.

In terms of total lipids, the analogues of the experimental group predominated by 3.2% over the control group of ducklings. It should be noted that triacylglycerols

in the experimental group were 37.6%, which was 6.2% more than in the control group, and triacylglycerols for the embryo of ducklings in the embryonic period are the main source of energy.

The level of cholesterol in the experimental group was less than 3.1% of the analogues of the control group. Cholesterol is a substance from the group of sterols. It is contained in significant quantities in nerve and adipose tissues, liver, it is a biochemical precursor of steroid hormones, bile acids, lipoproteins (compounds in the form of which lipids are transported throughout the body), and vitamin D. Excess cholesterol in the human body leads to the formation of gallstones, cholesterol deposition on the walls of blood vessels, and metabolic disorder.

Based on the study conducted, we can state that the weight of the egg and its components was higher in the experimental group, which received the developed vitamin-mineral premix in addition to the basic diet.

Keywords: *ducklings, egg, hatchability, egg-laying capacity, premix, complete feed*

Вступ. В основу сучасної промислової технології виробництва яєць і м'яса покладено біологію птиці. У процесі одомашнення з метою досягнення високих господарсько-корисних показників людина змінила природу птиці. До особливостей птиці належать: висока нормальна температура тіла, відсутність зубів, скороспілість і плодючість, розвиток ембріона поза тілом матері, інстинкт насиджування, щорічна зміна оперення, здатність до акліматизації, всеїдність, здатність давати продукцію в штучних умовах і нестись без самців.

Розвиток ембріона поза тілом матері дає змогу організувати штучне виведення молодняка сільськогосподарської птиці протягом року за допомогою інкубаторів [2].

Здатність свійської птиці виробляти високоцінні продукти харчування є однією з основних біологічних особливостей. Відомо, що одне яйце

задовольняє потребу людини у вітаміні А на 15 – 17%, В2 – 10 – 13%, Д – 13 – 40%. Білок яйця засвоюється людиною майже повністю [3].

Основна біологічна особливість птиці – розмноження шляхом відкладання яєць. Ця особливість дає можливість штучно виводити молодняк у будь-яких кількостях і будь-яку пору року, уникати сезонності, планувати технологічні групи за строками і кількістю, а племінний матеріал (яйця) зберігати і перевозити на значні відстані. Особливістю процесів злиття чоловічих та жіночих клітин та наступного розвитку ембріонів у птиці є те, що сам процес запліднення проходить у статевій системі самиць (лійці яйцепроводу), а ембріональний розвиток – поза організмом матері. Унікальним є те, що природа створила середовище (яйце), у якому ембріон може розвиватися окремо від материнського організму, використовуючи його поживні речовини [3].

На процес запліднення природою відведено всього близько 20 хвилин.

Статева зрілість настає у 6-7 місяців. М'ясні породи качок несуть до 140-150 яєць за один цикл, а яйценосні - до 200-250 і більше, у той час як дика - всього 6-10 яєць на рік. Наведені дані свідчать про можливість швидкого й ефективного впливу на організм качок. Багаторазове комплектування батьківського стада качками, що були виведені у різні місяці року, відповідні умови утримання і годівлі - фактори, завдяки яким качки можуть нести яйця цілий рік [1].

На відміну від суходільної птиці, у качок процес яйцекладки відбувається з 2-3 год. ночі до 10 год. ранку (до 6 год. кількість яєць уже становить 70%, до 8 год. - 95%).

Мета роботи. Метою нашої роботи було визначити вплив вітамінно-мінерального преміксу на яйценосність качок кросу «Благоварський» .

Матеріали і методи. Дослідження по встановлення впливу на яйценосність качок кросу «Благоварський» розробленого вітамінно – мінерального у складі повноцінного комбікорму проводилися в умовах

господарства ФОП «Манько А.Г.» смт. Цебриково, Великомихайлівського району, Одеської області та кафедри генетики, розведення та годівлі сільськогосподарських тварин ОДАУ.

Об'єктом дослідження виступали качки кросу «Благоварський». Дослід проводився з використанням методу груп, формуючі які враховували походження, вік, живу масу та стать птиці. Відповідно до схеми дослід (табл.1) перед початком яйцекладки було сформовано дві групи : контрольна та дослідна (по 50 голів в кожній). Дослідження проводили протягом трьох місяців (березень – травень), з кожної групи протягом всього періоду відбирали кожних десять днів 10 яєць для оцінки морфометричних показників. За червень для інкубації відібрали 100 яєць з кожної групи в яких визначали загальну масу, довжину, ширину, індекс форми яєць, масу жовтка, білка, шкаралупи, міцність шкаралупи рН білка та жовтка, товщину шкаралупи у гострому та тупому кінцях.

По завершенню інкубації перейшли на другий етап дослід, що пов'язаний з подальшим вирощуванням каченят кожної дослідної групи.

Таблиця 1. Схема науково – господарського дослід

Група піддослідної птиці	Кількість птиці у групі, гол.	Спосіб згодовування	Тривалість проведення дослід, днів
I- контрольна	50	ПК*	120
II- дослідна	50	ПК* + премікс (14 кг/т комбікорму)	120

Качок утримували у будівлях розмірами: довжина –45 м; ширина –11 м; висота – 3 м. Загальна площа – від 810 м². Залежно від віку птиці, вони займають площу від 180 м² до 1044 м². Уся площа пташника розділена поздовжнім службовим проходом шириною 1,0 м на дві однакові частини, які у свою чергу, розділені знімними перегородками на секції. Висота перегородки у пташнику, де розміщений молодняк качок від 1 до 21-денного віку – 30 см, для качок 22 – 45-денного віку і батьківського стада – 50 см. Щільність посадки

птиці становить 18 гол./м² для молодняку від 1 до 21-денного віку, 9 гол./м² – для молодняку від 22 до 45-денного віку

У стінах приміщення є отвори-лази розміром 0,4 х 0,4 м для дорослої птиці і 0,3 × 0,4 м – для молодняку. Птиця вільно рухається у секціях. Качки мають вільний доступ до годівниць та напувалок. Вони можуть виходити на вигульні майданчики біля пташника, які поділені на секції за віковими групами, відповідно до розподілу у пташнику.

Качок годували повнораціонними комбікормами, в дослідній групі до корму додавався розроблений вітамінно-мінеральний премікс в кількості 14 кг/т корму.

Результати досліджень. Протягом всього дослідження якості інкубаційних яєць було встановлено, за морфонологічними показниками качки обох груп не відрізнялися, лише маса яєць, маса білку та маса шкаралупи качок дослідної групи були більшими ніж в аналогів контрольної групи. Морфометричні показники качиних яєць наведені в таблиці 2.

Таблиця 2. Морфометричні показники яєць качок кросу «Благоварський»

Показник	Групи	
	Контрольна	Дослідна
Маса яйця, г	78	82
Індекс форми, %	70	71,5
Маса жовтка, г	27	29
Маса білка, г	40	41,5
Маса шкаралупи, г	9	10
Міцність шкаралупи, кг/см	1,5	1,5
Товщина шкаралупи гострий кінець, мм	0,5	0,5
Товщина шкаралупи тупий кінець, мм	0,5	0,5
Товщина шкаралупи екваторіальна (середня) частина	0,5	0,5

З таблиці видно, що маса яєць в дослідній групі була вища на 5,15% порівняно з контрольною, а це в свою чергу впливає на зростання маси складових частин яйця. Все ж таки відсоткового співвідношення складових

частин яйця суттєвої різниці не спостерігається, інших різниць морфометричних показників яєць не було виявлено.

В таблиці 3 наведено дані по рН яйця.

Таблиця 3. рН білка та жовтка качок

Показник, рН	Групи	
	Контрольна	Дослідна
Білка	9,36	9,36
Жовтка	8,32	7,69

Слід відмітити, що роль самого жовтка в розвитку ембріона спостерігається після використання всіх запасів протеїну яйця, тобто в кінці ембріогенезу, і продовжується протягом раннього постнатального періоду, коли молодняк використовує поживні речовини із залишкового жовтка.

Досліджуючи жовток качиних яєць визначили вміст загальних ліпідів та співвідношення їх класів (таб.4). Слід відмітити те, що ліпіди являються головним джерелом енергії для ембріона, а на початкових стадіях ембріогенезу ембріон використовує речовини жовтка, використовуючи їх як загальне джерело енергії та пластичний матеріал.

Таблиця 4. Вміст загальних ліпідів та співвідношення їх класів у качиних яєць кросу «Благоварський», %

Показник, %	Групи	
	Контрольна	Дослідна
Загальні ліпіди	24	27,2
Фосфоліпіди	25	27
Моно і диацилгліцероли	5	9
Вільний холестерол	17,2	14,1
НЕЖК	8	6,3
Триацилгліцероли	31,5	37,6
Ефіри холестеролу	12,3	8,3

Отже, з таблиці ми можемо побачити те що за загальними ліпідами аналоги дослідної групи переважали на 3,2% дослідну групу. Слід відмітити те що триацилгліцероли в дослідній групі складали 37,6 %, що на 6,2 % більше

ніж в контрольній, а так як 90 % жирних кислот знаходиться саме в триацилгліцерилах, вони стають ідеальним субстратом для збереження енергії.

Рівень холестеролу в дослідній групі був менший 3,1 % від аналогів контрольної групи. Холестерол — речовина з групи стеролів. У значних кількостях міститься в нервовій та жировій тканинах, печінці, біохімічний попередник стероїдних гормонів, жовчних кислот, ліпопротеїнів (сполук, у формі яких ліпіди транспортуються по організму) та вітаміну D. Надлишок холестеролу в організмі людини призводить до утворення жовчних каменів, відкладення холестеролу на стінках судин, порушення обміну речовин [3].

На підставі проведеного дослідження можемо відмітити, що маса яйця та його складових є вищою в дослідній групі, що отримувала до основного раціону розроблений вітамінно – мінеральний премікс.

Перспективи подальших досліджень

В перспективі подальших досліджень є визначення економічної ефективності додавання до комбікорму качок «Благоварський» розробленого вітамінного – мінерального преміксу.

Висновки

1. Встановлено, що маса яєць в дослідній групі була вища на 5,15% порівняно з контрольною, а це в свою чергу впливає на зростання маси складових частин яйця. Все ж таки відсоткового співвідношення складових частин яйця суттєвої різниці не спостерігається, інших різниць морфометричних показників яєць не було виявлено.

2. За загальними ліпідами аналогі дослідної групи переважали на 3,2% дослідну групу. Слід відмітити те що триацилгліцерили в дослідній групі складала 37,6 %, що на 6,2 % більше ніж в контрольній.

3. На підставі проведеного дослідження можемо відмітити, що маса яйця та його складових є вищою в дослідній групі, що отримувала до основного раціону розроблений вітамінно – мінеральний премікс.

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PARENTS INVOLVEMENT IN THE SCHOOL LIFE

Tevdorashvili Eka

Master of British Studies

ESL TEACHER

(+995) 591413926, ekatevdorashvili5@gmail.com

Abstract. *The subject of the present article is parental involvement, their active participation in school life and modern situation in some Georgian schools. Parental involvement is a combination of commitment and active participation on the part of the parent in school life.*

The article includes general views and concerns connected with above mentioned topic. Special attention is paid to the research. For the research several articles taken from the different web sites are analyzed.

Parents' involvement in school life can be differentiated and understood in several ways, such as the parent involvement for teachers, for the director and children. If parents are involved in school life, it means that they have all the information about planned events, are aware of grades and are regularly participating in the meetings organized by the school.

The results of the present research revealed many issues and problems concerned with the concept of parent involvement. The most important of these, however, is for the principal of the school to be committed to the idea of the student's involvement.

When the solutions are implemented, the effects are significant, especially for the student. Therefore, improved student achievement is the key objective concerning the issue in question.

Keywords: *parent involvement, school life, lack of involvement.*

1. Introduction

What does the word education mean? It comes from Middle French *éducation*, from Latin *ēducātiō* (“a breeding, bringing up, rearing”), from *ēducō* (“I educate, train”), from *ēducō* (“I lead forth, I take out; I raise up, I erect”). Before I discuss the main topic of my thesis, I would like to share a brief information about education according to different dictionaries. 1. “Education is defined as the process of gaining knowledge”. 2. “The knowledge or skill obtained or developed by a learning process”. 3. “Teaching concepts and perspectives. Computer education includes computer systems and information systems. Contrast with training”. 4. “The act of process of educating or being educated”. 5. “The field of study that is concerned with the pedagogy of teaching and learning”. 6. “A program of instruction of a specified kind or level”. 7. “The process of training and developing the knowledge, skill, mind, character, etc. by formal schooling; teaching; training”. 8. “Systematic study of the methods and theories of teaching and learning”. 9. “The process of art of imparting knowledge, skill and judgement”. 10. “An instructive or enlightening experience”. 11. “knowledge, ability, etc. thus developed”. 12. “Facts, skill and ideas that have been learned either formally or informally”.

"Parental involvement, in almost any form produces measurable gains in student achievement" (Dixon, 1992, p. 16). Parental involvement with the student and the school seems to be a vital issue. Research has revealed that schools do not always know the precise meaning of the term parental involvement. (Vandergrift & Greene, 1992). According to Vandergrift and Greene, two key elements work together to make up the concept of parental involvement. One of them is a level of commitment to parental support. This includes the following elements: encouraging the student, being sympathetic, reassuring, and understanding. Another significant element is a level of parental activity and participation, such as doing something observable. "This combination of the level of commitment and active participation is what makes an involved parent" (Vandergrift & Greene, p. 57).

How important is parent involvement in children's educational process? When a parent is involved in teaching process, pupils are more productive and have better results in assessment, as well as there are better tendency for attendance. For parent involvement in school life covers:

1. Parent should attend more school activities;
2. Children's homework has to be praised, pupils should be encouraged;
3. Regular discuss of progress of pupil's knowledge with teachers;
4. Parent should help children with their homework.

According to Loucks (1992) if parents are involved enough in the school life and activities or events children are more successful and have better conditions in the future;

2. Issues connected with the topic

Parent involvement declines as students grow older so that it is less in secondary schools than in elementary schools (Stouffer, 1992). If parental involvement is so beneficial, why is not it used to a greater extent than at present? One of the reasons for this state **Issues**.

This process of parent involvement is one of the most controversial. Most research shows that most parents prefer to play a more active role in this type of involvement, whereas most school administrators and teachers show great reluctance to encourage parents to become partners in governance.

One of the reasons concerns the lack of understanding of nontraditional families on the part of the school system. The non-traditional family is struggling to deal with many factors that affect every member of the family. These can affect the way that the family can be involved in the student's education. More than likely, there is a shortage of time. There are not enough hours in the day to accomplish everything. If there has been a divorce or death in the family, there probably has been a change in the financial standing of the family. The very nature of the family structure is in a

state of change causing confusion and insecurity (Duncan, 1992; Lewis, 1992; Wanat (1992). Parents may be doing the very best that they can.

"Schools must understand that lack of participation by parents does not necessarily mean they are neglecting their responsibilities. They simply may not have the time, resources, or know-how to help out" (Wanat, p. 47). Parents often do not feel welcome at school. They feel that what they may have to offer is unimportant and unappreciated. Also, parents may not believe that they have any knowledge concerning whether the school is interested in their attitudes to issues?? This is especially true when the parent may not have a great deal of education (Dixon, 1992; Vandergrift & Greene, 1992). It is also possible that the parent does not have a great deal of interest either in the school or his child's education. A parent may not feel that education is important (Vandergrift & Greene, 1992).

3.Methodology of this research

The main part of the research is dedicated to highlighting significant problems in Georgian school reality, parent attitude towards the school life and the process of learning and teaching of different subjects.

As this issue has not yet been researched in Georgia, this research conducted on the above topic is original and represents some novelty.

To accomplish the main goal of the research I have set the following tasks:

- Desk research: existing studies, legislative base;
- Determination of research methodology;
- Development of research tool;
- Conducting empirical research;
- Development of conclusions and recommendations.

I have interviewed ten Georgian Parents who have one or more children at school. Parents were selected from different schools.

I have chosen the questionnaire because parents didn't want me write or use their names so I have explained them that questionnaire was anonymous. I think this way was effective because while answering they were sincere.

The benefit of interviewing them was to find out parents attitude towards their involvement in their children school life and comprehension of their role from both sides.

4. Results/Findings

Through analysis of the ten parents answers it becomes obvious that most of them don't have enough motivation to be involved in their children's school life; Due to the existing situation (some of the parents are abroad, so children have to grow up with their grandparents or with relatives), unfortunately it is the quite a common situation in Georgian schools.

According to Loucks (1992) if parents are involved enough in the school life and activities or events children are more successful and have better conditions in the future;

Children whose parents don't attend the meetings and don't participate in the school events have low academic results; If parents are involved, children have a better attitude towards the school and they have a strong belief of themselves. Children whose parents are actively involved have better relationships with teachers, family members, and schoolmates; If teachers and parents have a mutual understanding of a child's needs the results are better than in the case of working separately.

Research shows that the most successful parent participation efforts are those which offer parents a variety of roles in the context of a long-lasting program.

Other guidelines include:

- Communicate to parents that their involvement and support makes a great difference in their children's school performance, and that they need not be

highly educated or have large amounts of free time for their involvement to be beneficial.

- Encourage parent involvement from the time children first enter school (or preschool, if they attend). Teach parents that activities like modeling reading behavior and reading to their children improves children's interest in learning.
- Develop parent involvement programs that include various parent involvement in instruction--conducting learning activities with children in the home, assisting with homework, and monitoring and encouraging the learning activities of older students.
- Provide orientation and training for parents, but remember that intensive, long-lasting training is neither necessary nor feasible. Make a special effort to engage the involvement of parents of disadvantaged students, who stand to benefit the most from parent participation in their learning, but whose parents are often initially reluctant to become involved. Continue to emphasize that parents are partners of the school and that their involvement is needed and valued.

Parents can benefit from their involvement:

- They understand better their children emotionally;
- They give more attention to their children's emotional, intellectual and social development;
- They appreciate their children's achievement in every aspect of life;
- They become more confident and involved in school life with great pleasure;
- They have a more positive relationship with teachers and children;
- They have all the information about the children and situation at school and they react on it on time.

Teachers benefit from parents' involvement:

- Teachers who actively communicate with parents become more confident;
- Teachers respect their job and themselves more;
- They are more satisfied with the results.

School benefits from parents involvement:

- School feels more encouraged from parent side;
- The school image is more popular in society;
- School programs where parents are actively involved are more successful;
- To help children while doing homework;
- To encourage children to behave well and be successful at school.

Meeting with the teachers regularly to discuss progress or regress of the students;

- To set real challenges for school.

Parents' involvements have benefits not only for children but also for teachers and the school as well and for parents themselves.

After analyzing the parental interviews some problems occurred:

- Some of them are very busy and they don't have enough time for active involvement;
- Sometimes the main reason was lack of the information from school side;
- Parents don't even like the books;
- Sometimes the main problem was very unusual, because parents don't trust the teachers, they even are afraid when they see the number of their teachers on the screen of their mobile phones,
- The key problem of the situation is lack of the information about parent rights or children rights.

5. Discussion

Parents prefer remote methods of communication and most of them are less likely to attend parents meetings or other school activities.

Teachers who try to build warm atmosphere in the classroom which is based on parent-teacher relationship. those who focus on parent involvement often see the profound changes of the situation in their classrooms.

Encouragement of the parent involvement isn't only courtesy, according to their interviews and answers it is the best way to create suitable learning atmosphere for children.

When teachers and parents share responsibilities equally, their minds meet each other about children's learning goals.

The majority of parents think that nowadays their involvement in school life and intimate parent-teacher communication is not necessary or effective at all. So most of them are sure that digital tools will help them to inform about their children needs or behavior. To my mind first of all parents should know their role in their children school life, but unfortunately, most of them are aware from this knowledge.

They should think about the best predictor of student's success. It doesn't matter what their socioeconomic status is, or how prestigious their schools are. The main factor of children's school life is the encouragement from their families. Children should finish not only their home works or assignments, but also develop a lifelong love of learning process.

How can we help parent to become more involved in school life and activities? Most of the parent are sure that they have enough qualification and education in order to work with children but they do not exact know how to use their abilities.

Teachers do not have to wait for offering from parental help, teachers should be initiators through this process. Teachers should organize inquiries about needs of methods which could be effective for normal learning process.

Teachers have to inform parent in detail:

1. Long-term plan;
2. Content of syllabus;
3. Criteria of assessment.

In order to parents fully involved in teaching process, teachers should organize various activities like "family reading day". During this activity parents are aware of children's ability of reading and main interests. Parents are more close to their children which helps their better long-term communication.

Teachers can also organize some playing activities like “entertaining event” where teachers choose one of the board games which help development of personal skills. The main idea is that in the process of playing children and parents are both involved. This could be real competition where the winner is awarded.

Activities that are mentioned above truly helps pupils in the process of teaching. They are more confident and become more productive.

6. Solutions

"Do parents know how and what they can do to ensure their children's success? Do they understand how the school and home can work in harmony for the good of both" (Campbell, 1992, p. 1)? It is possible that a lot of parents do the best they can, but simply do not know the answers to these questions. They want to help their children achieve success, but do not know how to go about doing that. Reginal Clark conducted research on students who were classified as high achievers and discovered that these students shared ten common characteristics (Campbell, 1992). These ten characteristics can provide a blueprint for families to be more effective in their roles of ensuring their children greater success in school.

1. A feeling of control over their lives.
2. Frequent communication of high expectations to children.
3. A family dream of success for the future.
4. Hard work as a key to success.
5. An active, not a sedentary, lifestyle.
6. Twenty-five to 35 home-centered learning hours per week.
7. The family viewed as a mutual support system and problem-solving unit.
8. Clearly understood household rules, consistently enforced.
9. Frequent contact with teachers.
10. Emphasis on spiritual growth. (Campbell, 1992, pp. 2-3)

The important person is the student. Anything that the parent can do to help the student improve is worth doing. "Emphasis should be on effective ways of helping

children, families, and schools work together to provide students with the opportunity to put their best efforts forward" (Duncan, 1992, p. 13).

It is very clear that parental involvement is beneficial. It can definitely benefit the student in question, but it can also benefit the teachers, the school, the parents themselves, and the community, as well as other children in the family. Everything possible should be done by the school system to encourage the parents to become involved. This is especially true of the principal of the school. He or she is the driving force of the school, and it is his or her leadership that will guide the teachers in the direction of emphasizing the importance of parental involvement.

- There has been extensive research done on this subject. However, new ways for increasing parental involvement can always be discovered. Additional research and information in this area can do nothing but help all concerned. The best way for better results is effective communication between school, teachers, director, children, and parents. The main factor in the process of children's development is regular communication and for the regular communication supporting way is sharing information between the teachers and parents. When the communication between these two sides is positive and regular, the involvement of parents increases, the assessment of school is higher and the situation, in general, is more positive.

- These are some extra activities which will prove and help the creation of better communication:

- Positive greetings with parents;
- Encourage and respect parents;
- Give them a questionnaire to get some extra information;
- Plan parents day;
- Inform parents with good news;
- Assess the effectiveness of parent-teacher meeting;
- Be initiative of meeting
- Use social networking web sites with them;
- Give parents new materials, new information;

- Send them emails regularly;
- Send them short messages;
- Create the parents club;
- Provide information to non-Georgian Parents;
- Plan some extra-curricular events.
- Always remember that “nothing is more important than to care for a child”
- Create teachers and parents association or organization
- Plan some extra-curricular events.
- Always remember that “nothing is more important than to care for a child”
- Create teachers and parents association or organization

7. Conclusions

According to the research I have differentiated some of the general problems which are still found in our reality, in Georgian school space. I think different schools may have different problems but some of them are common.

As from the interviews parents are busy and some of them are even abroad so they have lack of the information and they are not involved in school life and activities at all. Pupils need their attention, they should know that their parents care, they have communication with their teachers and they will know about their achievements or failures.

The beginning of such situation should be parents attitude towards their child's education, they should be oriented on their feelings, emotions, education and every single details of their children, because there is nothing more important than to care for a child. After they remember their child and their role they will make correct steps.

Also the teachers should be involved while creating warm atmosphere with the parents and children, so the triangle should be build up, with three sides: mother, teacher and child - which is the most important.

Research showed that family engagement, parents involvement helps school and teachers to improve student achievements, reduces absenteeism and restores parent confidence in their children's education. Pupils with involved family and parents earn higher grades and test scores, have better social skills, have better manners in society and show improved behavior.

According to the parental answers there are some limits which block parent participation in the school activities. These difficulties for parent include:

1. Limits of Language;
2. Lack of time in process of caring children;
3. Negative family relationships
4. Transport connection problems
5. Time managing problems.

The solution of the above mentioned problems can be solved with united forces from parent side, teachers side, and with help of the government as well. If the government helps school with money and find funding for schools and parents clubs than family and especially parents will think that they have conditions in their country and their visits abroad for work and money without children will be reduced.

Questionnaire

1. Do your child(children) prepare homework in different subjects with pleasure?

a) sometimes b) often c) never

2. Do your child(children) need your help while preparing homework?

a) sometimes b) often c) never

3. Do you have communication with your child's(children's) teacher(s)?

a) sometimes b) often c) never

4. How often do you call to your child's(children's) teacher(s)?
a) sometimes b) often c) never
5. Do your child(children) like your involvement in school life?
a) sometimes b) often c) never
6. Is your child happy when you contact with his(her) teacher(s)
a) sometimes b) often c) never
7. How often do you go to school to check marks and meet teacher(s)?
a) sometimes b) often c) never
8. Do your child's teacher informs you about school activity?
a) sometimes b) often c) never
9. Do you work or are you a housewife?
10. Do you like your child's school and books or do you prefer to change?

1. №	2. Sometimes	3. Often	4. Never
5. 1.	6. 50%	7. 30%	8. 20%
9. 2.	10. 20.8%	11. 10%	12. 69.2%
13. 3.	14. 49.5%	15. 10.5%	16. 40%
17. 4.	18. 88%	19. 5%	20. 7%
21. 5.	22. 74%	23. 5.6%	24. 20.4%
25. 6.	26. 85.7%	27. 14.3%	28. 0%
29. 7.	30. 41.7%	31. 40.3%	32. 18%
33. 8.	34. 60%	35. 20%	36. 20%

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MAIN PROBLEMS RELATED TO THE ACCESS TO MEDICINES FOR PATIENTS WITH RARE DISEASES ON THE TERRITORY OF THE REPUBLIC OF BULGARIA

Yordanova M.

PhD student at the Department of Health Economics and Management, MU

"Prof. Dr. Paraskev Stoyanov "Varna;

Marketing Manager at Surgical Hospital "Prof. Temelkov"

Email: yordanova250@gmail.com

Abstract. *The article presents an author's survey on the positions of specialists in the field of rare diseases regarding access to medicines for their patients. It is well shown how necessary it is to realize the importance of information and access to treatment for these particular cases as much as it is for every other one. The author's work and research prove how we as individuals are left alone to deal with hardships such as rare diseases, even when it is not our responsibility, but actually it is under the state's authority and its associated institutions.*

The study provides an opportunity to identify weaknesses in the system and to target measures to improve the problem solving process. The process which in the mentioned case is a mixture of related bureaucratic attempts that have not changed for years. Following the information about rare diseases gathered by the author, we can see that every system has flaws, but it becomes unacceptable when people's lives still remain at risk, when the healthcare systems are struggling to find reasonable solutions to all their problems. Even if the process has started step by step, almost every single person of the affected people shows with their own personal experience the necessity of general change. The author's analysis and evaluation of these particular weaknesses must be a basis in the

creation and implementation of effective changes by the governing bodies in health care.

The unique features of rare diseases as a whole, the lack of in-depth knowledge and expertise and of course the limited number of patients are a great example that there is a lot of opportunities to be creative and create different ways for innovation.

This and every other author's work and research are the way to reach more and more people with such information, which will help them to be more interested and seek more opinions and solutions to every problem that might get into their way.

Keywords: *rare diseases, orphan drugs, access to drugs.*

Introduction

Rare diseases are life-threatening or chronic debilitating diseases, with low prevalence and high complexity. [1]

According to the generally accepted European definition, a rare disease is considered to have a prevalence of no more than 5 per 10,000 people in the EU. These are diseases that affect a small number of people compared to the general population. For this reason, the activities regarding their treatment, access and funding are related to specific issues and are predetermined by their rarity. [3]

Impressive progress has already been made on some rare diseases, showing a constant and continuous effort in research and social solidarity.

All those affected by these diseases face similar difficulties in their quest for diagnosis, relevant information and proper referral to qualified professionals. Specific issues regarding access to quality health care, general social and medical care, effective communication between hospitals and GPs, as well as professional and social integration and independence, are raised by all patients and their relatives.

Patients with rare diseases are characterized by greater psychological, social, economic and cultural vulnerability. Due to insufficient scientific and medical knowledge, many patients remain undiagnosed or without adequate treatment

selection. These are also the people who suffer the most from the difficulties in gaining access to drug therapy and appropriate support.

Orphan drugs are generally understood to be drugs and devices intended for the treatment of patients with rare diseases. The definition of "orphan" came into use before 2014. The first ones are 72, and by 2017 in the EU there are 93. Of these, 28 are available on the Bulgarian market, and 22 are free of charge by the National Health Insurance Fund. [3] Justifying the expectations for development according to a study [3] of all orphan products - drugs and non-drugs, for leading countries in the European Union in terms of access are Germany - 143 available, reimbursed 133 and France available 143, reimbursed 116 pieces. According to European Regulation № 141/2000, only medicinal products for human use may be designated as "orphan medicinal products" [11]. Therefore, it does not apply to veterinary medicines, medical devices, food supplements and dietary products. Medicinal products designated as orphan medicinal products are entered in the Community Register of Orphan Medicinal Products.

To create a good incentive, the European authorities are setting up a mechanism for the development of medicines for rare diseases of pharmaceutical organizations. Examples include accelerated procedures for assessing medicines essential to public health, reducing fees, deferring fees, taking responsibility for transactions and providing administrative work. The main legislative document for the EU is the Regulation of the European Parliament and of the Council of 16.12.1999 on orphan drugs.

Usage authorization of orphan drugs is prepared in a certain regulation of the European Parliament and of the Council of 31.03.2004. [12]

In Bulgaria, the main problem is obtaining approval for using the actual medicinal products. The procedure can take about two years, at best. The number of people waiting for approval and registration is over 130. [4]

It has been established that in the territory of our country orphan drugs become available three and a half years after receiving European approval.

Given the type of disease, the lack of sufficient information, the delay or the ambiguity in the use of drugs only makes it difficult to treat these patients. [4]

Materials and methods

The methodological basis of the research is a combined approach between quantitative and qualitative methods: content analysis, statistical methods and sociological method - in-depth interview with two groups of respondents.

The main goal is to establish the level of access to medicines for patients with rare diseases in Bulgaria, based on a survey of medical specialists in the field of rare diseases.

An in-depth interview was conducted to gather information related to the possibilities for improving the access of patients with rare diseases to orphan drugs. Imperial information was gathered through two groups of respondents: doctors, specialists in the treatment of rare diseases and representatives of patient organizations for rare diseases from all over the country. All participants are part of the teams of centers for rare diseases in the country.

In the course of the study, 22 in-depth interviews were conducted with both groups. The interview was based on a prepared questionnaire, structured specifically for the survey, consisting of open-ended questions.

Results

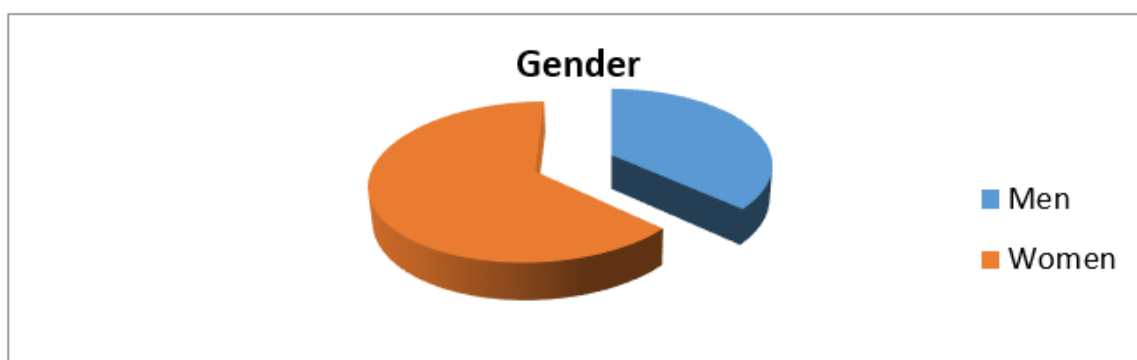


Figure 1. Distribution by gender

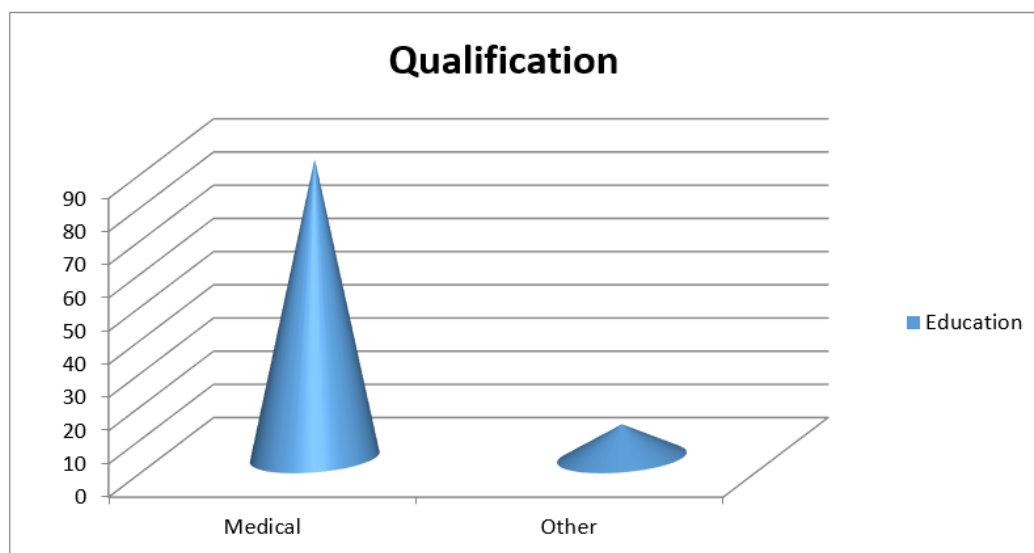


Figure 2. Distribution by type of education

The distribution of respondents by gender is 63.6% women and 36.4% men, with an average age of 53 years. The respondents with medical education are 90.9%, and there is information about only one specialist with a different one.

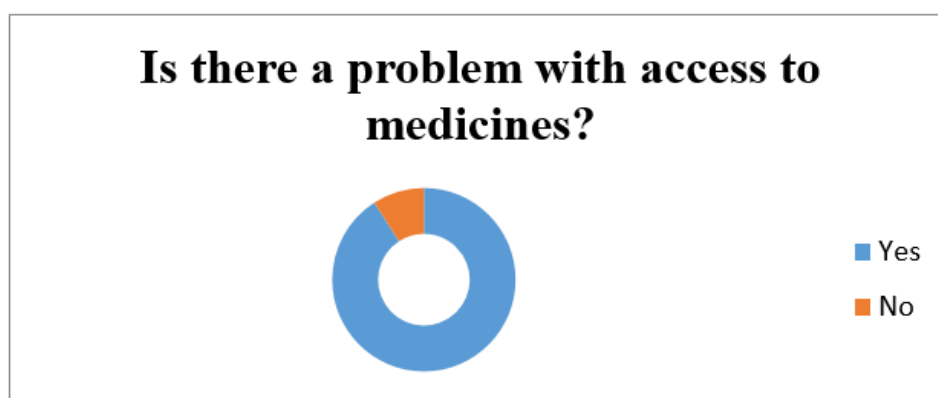


Figure. 3 There is a problem with access to orphan drugs

The main issue in the present study is confirmed by the results of Figure 3. Of the 100% audience, 90.9% confirmed the problem of access to orphan drugs. After a detailed analysis of questions specially created for the survey, the problem is provoked mainly by the administration of documents related to either the registration and use of drugs in the country or the difficult process of approval of the patient applying for treatment. As the treatment for patients with rare diseases, with its

greater part is covered by the National Health Insurance Fund, the access itself and its availability need attention. (Figure 4)

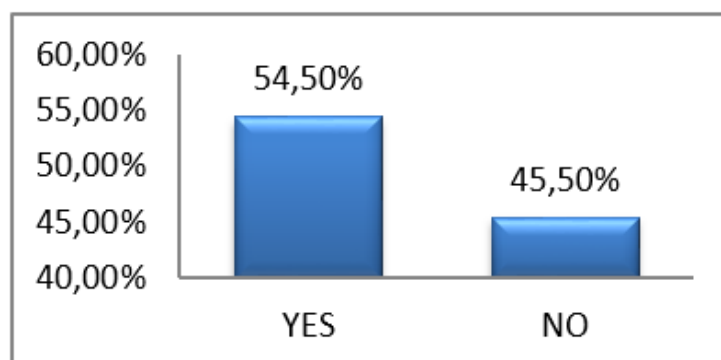


Figure 4. Existing problems with the co-payment for medicines

According to the experts who participated in the survey, 54.5% are of the opinion that there is a problem with the additional payment for medicines, and the remaining 45.5% deny it. In recent years, some orphan drugs and drug therapies for patients with rare diseases have been paid for by the NHIF. Another part remains out of the positive list of drugs or are just being replaced by their generics.

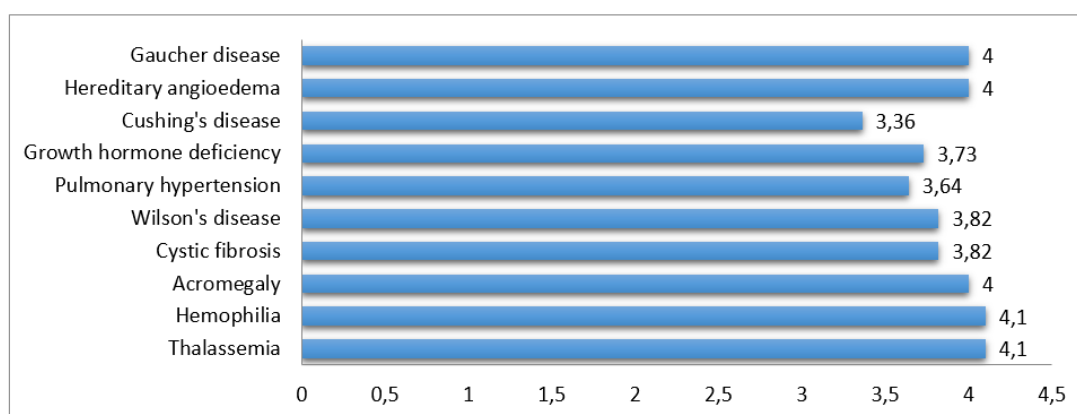


Figure 5 Average assessment of the degree of significance for the results of the treatment

Most experts are of the opinion that the use and influence of the main drug cannot be replaced by a generic drug. On a scale of 1 to 5 (with 1 corresponding to lack of significance and 5 - of great importance), the respondents answered that for 9

out of 10 rare diseases the use of the original medicine as well as its proven effects is more appropriate. (Figure 5)

Table. 1. Assessment of the factors that create the greatest difficulty in the work process of patients with rare disease

N	Criterion	Evaluation
1.	Individual / personal approaches can be used in the treatment of rare diseases	3.73
2.	Lack of adequate legislative framework and administrative efficiency	4.45
3.	Insufficient communication between institutions	3.73
4.	Lack of information about new technologies	3.27
5.	Time and level of providing access to therapies reimbursed by the NHIF	3.82
6.	Evaluation of the effectiveness of treatment	3.91
7.	Presence of frequent changes in the positive drug list of the NSCR	3.27
8.	Lack of a National Public Strategy for Improving Access to Treatment of rare diseases	2.81
9.	Lack of public / budget funding	4
10.	Lack of sufficient public information about the rare diseases	4

Through the Likert scale and after the listed criteria, the 4 that have the highest score were derived.

It turns out that this part of the legislative framework of health care also works with poor organization of activities. Insufficient funding from the state does not allow the introduction of new therapies that will benefit the part of the population that actually needs them. Very often the treatment is quite expensive and makes it impossible for patients to cover it. At the moment on the territory of Bulgaria 350,000 people are affected by some rare disease. Only 5% of these diseases are treatable, and the remaining 95% either have no established therapy or must use maintenance therapy that requires long-term allocation of funds. ⁽¹⁾

Discussion

After the study, using a Likert scale from 1 to 5, with 5 being the highest point, a tendency of uniformity in the answers of the respondents was noticed. For the most part, they are unanimous on issues related to the need for change in the system - over 90% positive answer, as the main problems are related to the lack of adequate

legislative framework, lack of administrative efficiency, insufficient funding and lack of information on final participants in the health system - patients.

The inability to participate in programs, the lack of medicines on the territory of the country and the slow pace of document processing can lead to deterioration of their condition. The treatment process consists of two parts - the ability to use treatment methods and on the other hand the availability of staff to actually apply them. The whole system suffers because the first part hinders the process.

Access to medicines for patients with rare diseases was assessed as too slow and there were cases of patients's refusal due to inability or delay in approval of treatment.

It can be characterized by two criteria - financial ability and access to available medicines. In one case we assess the ability of patients to afford additional or full cost of their therapies, and in the other case we assess the available medical resources and whether all patients suffering from a rare disease have the opportunity to find them in our country.

It is assumed that at the moment in Bulgaria there are two types of payments for medicines - partial, which are defined in the Positive List and published on the NHIF website [7] and full, where patients have to pay for all medical treatment. The second model influences the patient's choice, namely whether or not to purchase the prescribed medication. This often creates an obstacle to treatment and hinders the complete and successful work of medics, because in the absence of finances, patients either do not take the drug at all or determine the pattern of behavior and alternative treatment in order to save money.

From 01.01.2010, medicines for rare diseases were transferred from the budget of the Ministry of Health to the budget of the National Health Insurance Fund. This transfer takes place in view of the fact that medicines of this type are classified as 'home remedies'.

Over BGN 114.27 million were paid last year for the medicines for these diagnoses. However, they financed the therapy of only 6 113 patients, or the average cost of treatment per person per year was BGN 18 693. [8]

At the same time, the National Health Insurance Fund allocates over BGN 758 million for all medicines for home treatment. With them it has covered the therapy of over 1.6 million Bulgarians, and its average cost was 470 leva or 40 times lower than that of rare diseases. [8]

Currently, the Health Insurance Fund provides funding for 118 drugs needed for 73 rare diseases. The amounts allocated in previous periods are lower because the available drugs were less. Differences for five years are nearly BGN 50 million [5].

Over the years, health organizations and those involved in the problem have repeatedly made proposals to change the methodology of granting and reviewing the possibilities for financing the treatment of specific patients. About 6 000 people use over BGN 110 million, and the tendency is to increase. The strict specificity of the diseases provokes the need for various treatments and the opportunity to discover new methods for this.

The availability of medication for all types of rare diseases is impossible. The alternative of involving patients in various projects related to their treatment solves this problem. In 2019, as part of the proposal to the draft ordinance of the Minister of Health was the possibility for patients over 18 to be treated abroad, related to methods that are not available in Bulgaria.

On the territory of our country there are specialized centers for rare diseases that participate in European reference networks. [6] In March 1, 2017, their operation began in the twenty-six participating countries. 24 specialized reference networks have been established, with the participation of over 900 health teams. In short, ERNs can be described as virtual networks that help resolve cases of new, complex and rare diseases. They contribute to the development of new drug treatments, the exchange of information, save expensive human resources and of course time. These positive qualities support national health systems and create conditions for a quick and

effective outcome for tens of thousands of patients. The possibility to create conditions for cross-border cooperation and included programs allows an easier and faster way to treat patients in the countries of the European Union.

Conclusion

The principles and defining values of universality, access and quality healthcare, justice and solidarity are paramount for patients with rare diseases. The specific features of these diseases, such as the limited number of patients and the lack of knowledge and expertise, create a favorable environment for innovation.

Extensive cooperation between stakeholders at national and local level is needed. This will ensure the most efficient sharing of available knowledge and combination of resources in order to treat better the patients with rare diseases in Bulgaria.

Rare diseases require a global approach to prevent significant disease rates or premature mortality. The main goal of specialists in this field is to improve the quality of life.

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THE VALUE ASPECT OF THE IDEA OF A SUPERMAN IN THE SOCIAL AND POLITICAL VIEWS OF FRIEDRICH NIETZSCHE

Zaharchuk A.F.

Ph.D., Associate Professor

Department of Philosophy and Pedagogy of
State Higher Educational Institution «National Mining University»

Dnipro, 49600, av. Dmytro Yavornytsky, 19

zaharchuk1978@i.ua, cell. 8-067-388-36-63

***Abstract.** The article examines the significance of F. Nietzsche's idea of the superman in the social and political context. In this regard, the idea of the superman is considered in two aspects. First, as an idea directly related to the socio-political views of F. Nietzsche himself. Secondly, it analyzes the influence of the idea of a superman on modern, primarily, liberal-democratic concepts associated with understanding the place of an individual in the state and in various political and social processes.*

It is noted that despite the anti-democratic nature of the socio-political concept of F. Nietzsche, his idea of a superman can still be interpreted in a positive humanistic sense, as consonant with many modern views, which are aimed at defending the primary value of an individual, its freedom, as opposed to trends that associated with the development of modern mass culture and consumer society.

Thus, the opinion is defended, that the idea of a superman by F. Nietzsche played a significant role in the formation of the ideas of modern humanism, the value of an individual, both in Western liberal political culture in particular, and Western culture in general, especially in that part of it that is associated with irrational interpretations and approaches.

At the same time, it is noted that the idea of a superman is very contradictory from the point of view of the possibilities of its interpretation. The breadth of these interpretations is especially clearly presented in the historical and philosophical process. However, in relation to the socio-political topics that this work is devoted to, one can see a fairly wide range of interpretations of the idea of the Nietzschean superman.

In general, a conclusion should be drawn about the unconditional value of F. Nietzsche's concept of the superman for the process of the formation of humanistic ideas in the modern history of Western culture in its various layers. Undoubtedly, it is necessary to point out the relevance and prospects of further study of the concept of the Nietzschean superman, as a factor conducive to the development of ideas about the place of man in the state and society as the most important problem of modern socio-political thought.

Keywords: *Friedrich Nietzsche, values, superman, society, politics, irrationalism, hierarchy.*

Проблема тлумачення ідеї надлюдини у філософії Ф. Ніцше в даній статті розглядається як складова частина його соціально-політичної концепції. Головним змістом цієї концепції є проблема подолання всебічної кризи західної цивілізації, через спробу критичного тлумачення традиційної для західного суспільства системи цінностей зроблена Ф. Ніцше. Розгляд соціально-політичної концепції Ф. Ніцше і її окремих аспектів є важливим і для сучасності, тому, що більшість сучасних соціальних і політичних проблем були актуальними й за часів Ф. Ніцше.

Розгляд ідеї надлюдини як органічного аспекту соціально-політичної концепції Ф. Ніцше є актуальним, через те, що філософ виходячи зі своїх ірраціоналістичних поглядів на буття в цілому і на соціально-політичний процес зокрема, піддав всебічному критичному аналізу, перш за все сучасну людину. Надлюдина Ф. Ніцше, таким чином, може бути сприйнята як ідеальний

зразок, за допомогою якого вимірюється сучасна людина, а так само і як елемент впливу на формування сучасних ліберальних уявлень про пріоритетної цінності людини.

Слід також зазначити, що актуальність дослідження ідеї надлюдини в контексті соціально-політичної концепції Ф. Ніцше обумовлена і слабкою розробленістю цієї теми в вітчизняних та закордонних дослідженнях. Питання соціально-політичного плану самі по собі мало вивчені дослідниками філософії Ф. Ніцше. Соціально-політична концепція Ф. Ніцше, як правило, якщо і зачіпається, то в контексті культурологічних та інших проблем його філософії. Тому, хоча вчення Ф. Ніцше про надлюдину і вельми глибоко вивчено, робіт співвідносять його з соціально-політичною сферою порівняно мало. Так, з новітніх досліджень російських вчених, які зачіпають соціально-політичний аспект філософії Ф. Ніцше, можна виділити роботи наступних авторів: Горячевої М. В., Бахтіна М. М., Крахоткіна Ф. А., Кучевського В. Б., Мочкіна А. Н., Потьомкіної В. Н., Шинкарева К. С. в роботах цих дослідників зачіпається й ідея надлюдини, але, як правило, вже в контексті її співвіднесеності з завданнями та цілями, які визначалися цими авторами у своїх дослідженнях.

Таким же чином відбуваються справи й в сучасних українських дослідженнях теми надлюдини Ф. Ніцше. На тлі частих звернень вітчизняних авторів таких як: Бичко А. К., Панченко В., Загурська Н. В., Ємельянова Н. Н., Горбатенко В. до теми надлюдини, можна знайти вкрай мало спроб пов'язати її з соціальними та політичними аспектами.

Метою даної статті є: Аналіз ідеї надлюдини в контексті формування в західній політичній культурі дискурсу, пов'язаного з ідеями самоцінності людини, її свободи та пріоритетної цінності щодо держави.

Для досягнення цієї мети слід вирішити ряд завдань:
- як ідея надлюдини Ф. Ніцше співвідноситься з його вченням про ієрархічне суспільство;

- аналіз наявних інтерпретацій сутнісного змісту ідеї надлюдини Ф. Ніцше;
- в чому значення і цінність ідеї про надлюдину для сучасних соціально-політичних уявлень.

Ідея «надлюдини» пронизує всю історію (принаймні західного світу). Подібні ідеї є в «Государі» Макіавеллі (надлюдина - носій влади, не пов'язаний нормами моралі). В епоху Відродження склався і тип культурного героя, художника в найвищому сенсі, повелителя таємниць життя і природи (Фауст, настільки значущий для Ф. Ніцше), а також образ розгнужданого і злочинного героя (як і Фауст, яке існувало в реальності), носія титанічної (кривавого) індивідуалізму — Цезаря Борджа (згадується у Ф. Ніцше). Пізніше концепцію надлюдини обґрунтовували Гердер, Дідро та інші [2].

Ідея надлюдини як одна з найбільш значущих ідей філософії Ф. Ніцше, оформилася у мислителя не відразу, пройшовши досить тривалу еволюцію. Як вважає Л. Кусак, першою спробою вираження ідеалу розвитку людини, навіяної впливом А. Шопенгауера, у Ф. Ніцше є концепція генія як людини, яка завдяки милості природи наділена здатністю вдивлятися в суть буття та умінням передати здобуте знання у вигляді реалізації художньої, літературної або філософської творчості. Місце генія в ланцюжку ідеалів людини у Ф. Ніцше потім займає істинна людина, у якого домінування інстинктів над розумом як джерело сили поступається місцем здатності самовиховання і вивільнення від сліпих, інстинктивних стимулів.

Потім у творчості Ф. Ніцше з'являється ідеал вільного розуму або вільного духу. Атрибутом цього ідеалу є свобода розуму від упереджень і догматів.

Пошук ідеалу людини, здатного подолати кризу розвитку людства, у Ф. Ніцше вінчає теорія надлюдини.

У зв'язку з цим, як зазначає Д. Ледницький, надлюдина за задумом Ф. Ніцше мав бути позбавлений всіх недоліків попередніх ідеалів генія, істинну

людину і вільного духу. Надлюдина є гармонійним поєднанням діонісійського та аполлонічного початку. Джерелом її сили є позбавлене ілюзій діонісійське бачення дійсності (смерть Бога, занепад поширених на той момент моральних цінностей і крах ідеалів розвитку людини) [3, с. 89-91].

Виникненню надлюдини мало передувати згуртування тих людей, яких Ф. Ніцше називає «людьми вищого порядку»; це по термінології Ф. Ніцше, ті, які «перейдуть через міст», - причому слід розуміти, що людина, за його ж термінологією, це міст, перекинутий від тваринного до надлюдини. А суспільство цих «людей вищого порядку», це тепер уже можлива трудова аристократія; - це розплідник для майбутньої «надлюдини» [6, с. 29].

В такому випадку впевнено можна говорити про соціальні елементи у вченні про надлюдину, а саме про затвердження Ф. Ніцше елітарних підходів та ідей ієрархічного суспільства. Якщо в питанні про те, що значить «перейти через міст» можливі різні тлумачення — що під цим мав на увазі Ф. Ніцше: еволюційний біологічний процес чи духовне вдосконалення, то немає сумніву, що цей «перехід» здійснять не всі люди, а тільки вибрані. І це саме той суттєвий момент у вченні про надлюдину, який, власне, є базисом соціальних поглядів Ф. Ніцше. Завдання і вища мета суспільства — створити середовище, в якій можлива поява надлюдини — це духовна еліта, а й ця еліта цінна не сама по собі — її завдання і вища мета перейти на новий рівень існування. По суті справи, загинувши дати життя чогось новому (надлюдині). Як зазначає Ж. Дельоз «Добре відомо, що ніцшеанська теорія вищої людини — це критика, об'єктом якої є найбільш глибока і небезпечна містифікація гуманізму. Вища людина претендує на те, щоб вести людство до досконалості, до завершення. Він має намір відновити всі людські якості, подолати відчуження, реалізувати людину тотальну і поставити її на місце бога, зробивши людину могутньою силою, яка стверджує і стверджується [1, с. 176].

Тобто, станове суспільство, де верховенство аристократія для Ф. Ніцше не остаточна мета, а лише засіб до виведення через спадковість нового біологічного виду — надлюдини. «Що таке мавпа щодо людини? Посміховисько або нестерпний сором. І тим самим має бути людина для надлюдини: посміховиськом або нестерпним соромом.

Ви зробили шлях від хробака до людини, але багато в вас ще залишилося від хробака. Колись були ви мавпою, і навіть тепер ще людина більше мавпа, ніж інша з мавп. Надлюдина — це суть землі ... Людина — це канат, натягнутий між твариною і надлюдиною, — канат над прірвою. В людині важливо те, що вона міст, а не мета: в людині можна любити тільки те, що вона перехід і загибель »[7, с. 13]. Можливо, що в подальшому процесі еволюції дійсно виникне новий біологічний вид людини. Але теза Ф. Ніцше про те, що така еволюційна зміна може відбутися завдяки саме наявності ієрархічної системи та виключно в середовищі знаті, представляється, по-перше, мало обґрунтованою як сама по собі, а по-друге, таїть в собі практичну небезпеку для суспільства. Найжорстокіша і кровопролитна за всю історію людства друга світова війна якраз і сталася на ґрунті ідей про біологічну перевагу. Та й недавній вітчизняний досвід по створенню «нової спільності людей» привів до плачевних результатів. Історія не раз свідчила, що втілення на практиці навіть самих світлих ідеалів, як правило, виливається в їх повну протилежність. Як писав С. Ф. Одуєв, «... піднесення деяких обраних істот над людською масою виявиться не чим іншим, як їх граничним підйомом по сходах страт, а сама сага про надлюдину — методологічним прийомом виправдання соціальної ієрархії за допомогою біологічної символіки» [8, с. 69]. Ця нехай і категорична оцінка показує можливість співвіднесення надлюдини з актуальними соціально-політичними проблемами та в такому ракурсі вона може бути продуктивно розглянута. Адже говорячи про майбутнє надлюдини, Ф. Ніцше її постійно протиставляє сучасній людині та способу її сучасної життєдіяльності.

Слід зауважити, що подібну «біологічну» інтерпретацію ідеї надлюдини все ж не можна абсолютизувати. У питанні інтерпретації ідеї надлюдини Ф. Ніцше існує дві протилежні точки зору.

З одного боку, деякі дослідники спадщини Ф. Ніцше ще за життя філософа побачили у вченні про надлюдину вульгаризоване продовження дарвінівських ідей (сам мислитель дав привід для цього, вживаючи, правда, рідко слівце надтварина). Ф. Ніцше в книзі «Ессе Номо» гнівно відкинув такого роду судження. Відкидав «базельський самітник» і спроби пов'язати надлюдину з «культу героїв» Т. Карлейля (1795-1881 рр.), провісників божественної волі, що підіймаються над натовпом.

Загальним місцем робіт про Ф. Ніцше, створених протягом цілого століття, стали викриття, спростування, нищівна критика вчення про надлюдину. Суть подібних суджень зводиться до того, що надлюдина довільно оголошується таким собі зосередженням між людиною і звіром, регресивно відкидають людство до долюдського (бестіального, тваринного, антигуманного) стану. Дослідники забувають (не беруть до уваги) то, що у Ф. Ніцше виключно багато словесної гри, усвідомлених намірів провокувати читача протилежними за змістом, але одномоментними афоризмами, свідомо вводити його в оману. Ядро сенсу ніцшеанських висловлювань ретельно камуфлюється, ховається, ховається в купі мішурних вербальних вишукувань і словесних вивертів [2].

У зв'язку з останнім, з іншого боку, ніцшеанську надлюдину пропонується трактувати суто в духовному аспекті. Надлюди — творці історії (у Ф. Ніцше) - а ні продукт природної еволюції виду *homo sapiens*, а ні вже тим більше не «соціальна спільність ... аристократів, капіталістів, просто багатих, представників інтелігенції, злочинців, політичних діячів, численних керівників, організаторів та начальників різного рангу, вождів політичних партій і громадських організацій, лідерів великих і малих соціальних груп », а якийсь важкодостижний (але цілком реальний) ідеал. Взагалі ніцшеанська міфологема

надлюдини надзвичайно складна і багатогранна, але вона несе в собі все-таки гуманістичну спрямованість і орієнтованість [2].

Ф. Ніцше закликає до синтезу політика і художника, який мав місце в минулому. Він хотів, щоб всі форми життя стали керованими, тобто створювалися на зразок творів мистецтва. Він мав на увазі не «фабрикацію свідомості» і протезування тіла, які характерні для сучасної роботи влади на душею і тілом, а скоріше марив про культурну творчість, що включає виробництво сильної та вільної людини. Для цього необхідна політична воля великих людей, здатних втілити пірамідальну державну систему, засновану на ієрархії та строгих межах між станами [5].

Труднощі однозначного розуміння ідеї надлюдини виникає також з того, що сам Ф. Ніцше, не будучи надлюдиною, не міг досконально описати буття надлюдини, наповнити цю свою ідею реальним змістом. Дана ідея була спрямована радше на критику недоліків сучасної людини. У цьому сенсі можна погодитися з російським філософом М. Мамардашвілі, який з цього приводу зазначив наступне: «Надлюдина не є якась реальна істота або реальна порода людей, яка була б вище інших, а є якийсь граничний для людини стан, лише кинувшись до якого людина може стати людиною» [4, с. 146].

У будь-якому випадку, як би дослідниками не вирішувалася проблема трактування сутності надлюдини, в даному розгляді важливо підкреслити, що дана ідея Ф. Ніцше найактивнішим чином вплинула на політичну теорію і практику.

Не без впливу Ф. Ніцше склалися сучасні теорії харизматичного лідерства та еліти. Хоча Ф. Ніцше не був прихильником жорстокої тиранії, проте, його мрії про синтез Гете і Наполеона, Цезаря і Христа, тобто естетизація сильної особистості були не просто утопіями, але використовувалися як інструменти підвищення авторитету тиранів. Звичайно, сам Ф. Ніцше не робив виходів на політичну практику. Він хотів лише показати, що довіра до політичних рішень є елемент самої політики. Інша справа, що цей висновок був почутий і

використаний неохайними політиками, які всіма засобами намагалися інсценувати наявність харизми та використовували її як політичний капітал [5]. Таким чином, можна говорити про те, що багато ідей Ф. Ніцше щодо суспільства є продуктивними, оскільки відбивають реальні механізми його функціонування. А це, своєю чергою, дає право говорити про велике значення ірраціональних чинників у житті суспільства.

Підводячи ж висновки з даного розділу, слід зазначити наступне. Розвиваючи концепцію ієрархічного суспільства та ідею надлюдини як її складову, Ф. Ніцше приділяв чималу увагу психологічним і біологічним аспектам. Оцінюючи вчення Ф. Ніцше про надлюдину як частину його соціально-політичної концепції можна констатувати її безумовний ірраціональний характер.

Головне те, що надлюдина мислилася Ф. Ніцше як повністю ірраціональна істота. Власне, в цьому її принципова відмінність від сучасної раціональної людини, яка, до того ж в рамках західного суспільства абсолютизує свій розум. В ідеї про ірраціональну надлюдину знаходить свою необхідну підставу і завершення вся соціально-політична концепція Ф. Ніцше. Вся розпочата Ф. Ніцше критика сучасного суспільства, таким чином, може бути виправдана як позитивна. Тобто, Ф. Ніцше не просто критикує сучасне суспільство, він пропонує йому шлях виходу з кризи через відмову від раціоналізму і прагнення до ірраціоналізму. Ірраціоналізм згідно з Ф. Ніцше ототожнюється з гуманізмом або вищим (непрагматичним) гуманізмом, який, звичайно ж, виходить за рамки традиційних цінностей сучасного суспільства, в тому числі й в тому, що стосується форм її соціально-політичного життя. При цьому зрозуміло, що мова йде тут не про звичайний ірраціоналізм, який притаманний людині, а про якийсь надіраціоналізм.

Цей надіраціоналізм абсолютно відповідає ірраціональній природі світу та ідеально втілює волю до влади як його антологічну основу. Таким чином,

можна говорити про позитивне, гуманістичне значення ідеї надлюдини Ф. Ніцше для подальшого розвитку людини та суспільства.

У більш вузькому, соціально-політичному аспекті, слід зазначити, що німецький мислитель в рамках ідеї ієрархічного суспільства одним з перших показав важливість врахування суб'єктивних факторів у суспільному житті, які надалі лягли як в основу політичної теорії (теорія харизматичного лідерства та еліти), так і показали свою ефективність на практиці.

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