ACADEMIA POLONICA

SCIENTIFIC JOURNAL OF POLONIA UNIVERSITY
PERIODYK NAUKOWY AKADEMII POLONIJNEJ

66 (2024) nr 5

CZESTOCHOWA 2024

PARTNERZY / PARTNERS

Scientific journal has the scores, is available in the Open Journal Systems database (http://pnap.ap.edu.pl/index.php/pnap) and has the DOI prefix.
Academia Polonica – Scientific Journal of Polonia University is admitted to the following international scientific databases:

- DOAJ (Directory of Open Access Journals);
- Polish scientific and professional electronic journals;
- General Impact Factor;
- DRJI;
- Nukat;
- Sindexs;
- ROAD;
- IndexCopernicus;
- WorldCat;
- Universitätsbibliothek Leipzig;
- ESJI;
- PBN;
- Scilit.

The paper version of the Journal is the original version. The Journal is available in the electronic form on the website: www.pnap.ap.edu.pl

FOREIGN MEMBERS

CONTENTS

LANGUAGE, CULTURE, COMMUNICATION

INNOVATION, WORK, SOCIETY

HEALTH, ENVIRONMENT, DEVELOPMENT

TECHNOLOGY, CREATIVITY, IMPLEMENTATION

INTRODUCTION

Dear colleagues, authors and readers of the Academia Polonica (Scientific Journal of Polonia University, PNAP – Periodyk Naukowy Akademii Polonijnej)!

Congratulation on the release of a new Academia Polonica 66 (5) (2024)!

In this issue we are presenting scientific articles, which deal with urgent problems of language, culture, communication, and education, as well as sociology, issues on technology, creativity and implementation.

The collected papers and their objectives represent researches in linguistics, intercultural communication and education. Among them: various theories about the origin of language, language means of expressing implicit evaluation in contemporary political discourse, genre invariants of modern advertisement, feasibility of implementing information and communication technologies in the process of foreign language teaching, mystical symbols in the culinary discourse of Joan Harris's novel "Chocolat", theoretical aspects of the literary text adaptation into film script, the origins of medical terminology.

The authors in the sphere of education elicit pedagogical aspects of forming a successful pupil's personality, principles of formation of listening skills of students in higher educational institutions, practical works in primary school physics course, quality management technology for the training of bachelors in physical education in the environment of the university (on the example of the prc), remote education using expedience, advantages, disadvantages, comparison to the non-remote learning in Ukrainian higher educational establishments under war conditions.

Academia Polonica also highlights the current problems of modern society, such as conceptualization of Ukraine's foreign policy choice as a marker of democratization, the role and place of public control in the legal mechanism for the prevention of penitentiary crime in Ukraine, the main subjects of the implementation of the youth policy of Ukraine and the regulatory and legal regulation of their interaction, representative democracy, the evolution of approaches to the judicial corps formation in the us (from the ideas of Albert M. Kales to the plan of Sandra D. O'connor), sociological perspectives of the study of the war factor in the dynamics of compliance with anti-pandemic measures (on the example of front-line Kharkov), netocracy as a form of information society management, mechanisms and principles of interaction between public administration entities in cross-border cooperation.

Authors in the sphere of health, environment, development elicit modern approach to condition of hard tissues of teeth in children with cerebral palsy, sources of traumatic experience and cross-contour mental health recovery technology, specific characteristics of mental status in patients with rheumatic arthritis depending on sex, the influence of melatonin on the activity of the main enzymes of antioxidant protection in the heart of rats with dexamethasone diabetes.

We thank our authors, who have already sent their scientific articles to Academia Polonica, and those, who are going to submit their research results to our journal. We would also like to express our particular gratitude to all the members of the Editorial Board, to the reviewers, and to those who kindly accepted our proposal to work together and contribute to the creation of Academia Polonica..

With respect and regards
Maciej Rudnicki, Prof. PhD, Editor in Chief
Rector of the Polonia University

LANGUAGE, CULTURE, COMMUNICATION

LINGUISTIC AND DIDACTIC POTENTIAL OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN TEACHING FOREIGN LANGUAGES

Olha Demianenko
PhD, Associate Professor, V. O. Sukhomlynskyi National University of Mykolaiv, Ukraine
e-mail: olgademyanenko@ gmail.com, orcid.org/0000-0002-8937-3676

Tetiana Moroz
PhD, Associate Professor, V. O. Sukhomlynskyi National University of Mykolaiv, Ukraine
e-mail: tatmoroz17@gmail.com, orcid.org/0000-0002-2839-0739

Summary
The article deals with the issue of artificial intelligence that should be integrated with traditional foreign language teaching methods to create a balanced and effective approach. When artificial intelligence is fully integrated into the educational process, learning tasks will reach a new level. Feedback, personalizing learning, adapting to everyone's needs will have a significant impact on learners. Special attention is paid to the benefits of implementing artificial intelligence in learning and also the methodological and didactic potential of chatbots. Currently, higher education institutions use artificial intelligence technologies in the process of teaching foreign languages. The author emphasizes that different artificial intelligence tools allow to personalise learning and provide an individual approach taking into account the developmental characteristics and needs of each participant of the learning process in higher education; to provide instant feedback, which motivates students and educators for further learning in cooperation, helps to see both development prospects and limitations, to adjust the learning trajectory in a very short time; to motivate students to learn a foreign language through a high degree of interactivity and accessibility.
Key words: educational system, artificial intelligence, chatbot, Chat GPT, foreign language learning, personalisation of education, virtual environments.

1. Introduction

The relevance of the study is due to the growing interest in the use of artificial intelligence (AI) in the educational system, in particular in the process of teaching foreign languages. The development of artificial intelligence technologies opens up new opportunities for individualising learning and improving its quality.
The aim of the research is to study and analyse the application of artificial intelligence technologies in the process of teaching foreign languages; to determine their linguodidactic

potential; to determine the optimal levels of foreign language proficiency for the use of chatbots in order to develop speech communication skills.

Theoretical significance of the study consists in the description of artificial intelligence technologies used in the process of teaching foreign languages. Practical significance is that the results of the study can be used to create new approaches and strategies that include artificial intelligence technologies in the process of teaching foreign languages.

Research methods used in the study: theoretical (generalisation, analysis of information); comparative (comparison of different approaches and technologies to determine their effectiveness and accessibility).

2. The benefits of implementing artificial intelligence in learning

The main goal of foreign language teaching is the formation of all components of communicative competence: linguistic (rich vocabulary, ability to formulate and understand grammatically correct phrases, have correct pronunciation, spelling); discursive (ability to apply adequate strategies for understanding and creating texts); sociocultural (understanding of the sociocultural context in which the social community using a given language is created, ability to be an effective participant and mediator of the dialogue of cultures); sociocultural competence (understanding of the social and cultural context in which the language is used, ability to be an effective participant and mediator of the dialogue of cultures). Students master linguistic competences in the process of interaction with the teacher, educational literature, Internet sources, etc. The formation of discursive competences is carried out by the students. Formation of discourse competence is carried out in the process of dialogic and monologic utterances both in the classroom and outside it.

Artificial intelligence is actively penetrating into various spheres of society, and education is no exception. According to M. McLuhan, communication media modifying the environment surrounding people change their way of perceiving the world, thinking and activity. Consequently, it is impossible today to imagine any learning model that does not rely on artificial intelligence technologies *(McLuhan, 1964)*.

Due to the emergence of modern learning technologies, especially the need to incorporate digital technologies into the learning process in higher education, NLP models are becoming important for the vocational education system as they enable personalised learning, on-demand support and other innovative approaches *(Odden and others, 2021)*.

The benefits of implementing artificial intelligence in learning can be astounding. It can be illustrated with the following examples.

1. Individualisation and personalisation of education. It is assumed that in a group with 15-25 students it is quite difficult for a foreign language teacher to find the right approach to each of them. But thanks to the use of artificial intelligence when learning a new language, it is possible to take into account the needs of each individual student. With AI integrated into the learning process, teachers will be able to collect gigabytes of data about their students, their interests, abilities, etc. When analysed, this data can pave the way for personalised education.

Today, there are many AI-powered language learning platforms that allow learners to work at their own pace, exploring language material and identifying what they are having trouble with, engaging them in tasks they best at, appealing to their interests and taking into account their cultural background. Data will also be able to allow teachers to understand what is going on in their students' minds, to predict their future performance *(Keshav, 2023)*.

2. Providing instant feedback. When learning foreign languages with artificial intelligence, feedback will come quickly. When students work hard on an important test, waiting for

results can be stressful. When they see their mistakes a week later, they won't be able to remember how or why they made them. A language learning platform using artificial intelligence will be able to automatically assess test results and even analyse essays as soon as students have completed them, pointing out mistakes and suggesting ways to avoid them in the future. This will allow students to take immediate action to correct their mistakes and likely do better on future tests. As for teachers, AI-assisted language learning solutions can identify weaknesses in their curriculum and help them see what could be improved in lectures or practical assignments, which aspects of the language are most challenging for students, which learners need additional guidance.

3. Addressing the fear of failure. It is normal to make mistakes, as people learn from mistakes. But when students make mistakes, they get low grades, or when they don't answer questions, they often feel embarrassed or even afraid of what the pre-tutor will say. AI in language learning will not criticise or humiliate students, it will be able to assess students without judging them.

4. Changing the role of the teacher. AI will not force teachers to leave the university, but it will redefine their role. The teacher is more likely to become a conduit of knowledge, a consultant and a facilitator, which means that technology will perform daily, routine duties for teachers, while freeing up time for them to communicate and support learners. As AI-assisted language learning begins, instructors will have more time to coordinate instruction and mentor students. The most tech-savvy teachers will be able to try their hand at being data scientists, analysing and using the data generated during the learning process.

5. An informed approach to learning. With AI used to learn a foreign language, learners will be able to learn from anywhere in the world at their own pace, set their own goals and follow a personalised learning plan. Teachers won't have to cover the same material every year, thanks to a personalised approach that varies from student to student. In addition, AI can help develop fun games, quizzes and other learning and research activities that match curricula with student interests.

3. The methodological and didactic potential of chatbots

Currently, there is a growing interest in these technologies (machine learning, computer vision, intelligent tutoring system, data analysis), based on which programmes and information and communication technologies are created that can significantly change the role and functions of the subjects of the learning process. For example, chatbots are capable of solving methodological and didactic tasks. The methodological potential of chatbots is that they enable students to master foreign-language oral and written speech in the process of teaching a foreign language. The didactic potential of chatbots provides real-time feedback to students in the form of answers to the questions asked, as well as in the control of students' performance of individual tasks. Thus, the content of foreign language teaching should include knowledge, skills and abilities in the sphere of contacts with chatbots and voice assistants. The organisation of teaching students a foreign language using chatbots depends on their level of foreign language proficiency.

In the process of learning a foreign language using chatbots, productive types of foreign language speech activities (writing and/or speaking) are developed. Thanks to chatbots it is possible to develop the skills of oral and written interaction of students in classroom and extracurricular time. Oral interaction with chatbots develops speaking and listening, while written interaction develops writing and reading. The productive type of

foreign language speech activity is a speech-thought stimulus (in the process of conversation) and reaction (in the process of answering the chatbot's statement) to the perception and analysis of the information received from the chatbot. It should be noted that in the process of interaction with chatbots, students develop receptive and productive foreign language speech skills.

The level of a learner's foreign language proficiency is important when organising the teaching of foreign language speech communication using chatbots. The most optimal levels of learners' foreign language proficiency are A2-B1. A learner with A1 level has a deficit of language and speech means, can understand only the simplest and shortest questions of a chatbot. At this level, the student is unable to conduct a dialogue with the chatbot. Learners with level B2-C2 do not have a need for speech practice with chatbots, as they have a high level of foreign language proficiency, which enables them to communicate freely with native speakers, listen to foreign radio stations, watch foreign TV channels, read foreign press on the Internet, etc. Thus, the use of chatbots for the development of speech communication skills is useful for learners of A2-B1 levels.

The scheme of work with the use of chatbots is a necessary component of the process of learning a foreign language. It includes conducting a dialogue with a chatbot; performing individual tasks and evaluating the work done.

4. Form of work

In the process of learning a foreign language with the use of chatbots, mainly classroom and extracurricular work is used. The first lessons with the use of chatbots should begin in the classroom with the explanation of the material, and practical work is carried out by students individually out of the classroom. It should be noted that classroom work is desirable for students with A1-A2 level, for students with B1-B2 level, extracurricular work with the use of chatbots is desirable for practising speech communication skills.

AI technologies have great linguistic and didactic potential in foreign language teaching. AI can provide a whole range of tools and resources for effective foreign language learning.

Here are some examples of successful application of AI technologies in foreign language teaching:

1. *Duolingo* is a mobile application that uses AI for language learning. This app offers interactive exercises, feedback and personalised learning.

2. *Rosetta Stone* is an online language learning platform that uses AI to create interactive lessons and adaptive learning. The AI analyses learners' performance based on their responses and suggests customised tasks to develop their language skills.

3. *Babbel* is an app for learning foreign languages. AI analyses the learner's pronunciation and grammar and suggests additional materials to develop speech skills.

The main advantage of AI technologies is the ability to create interactive and adaptive learning systems; to provide learners with personalised lessons and assignments tailored to their needs and language proficiency level. This enables each learner to work at their own pace and focus on their weaknesses. The chatbot also offers a variety of exercises and games that promote reading, writing, speaking and listening comprehension skills. For example, voice assistants can be used to practice pronunciation and listening, while machine translation systems allow students to enrich their vocabulary.

In addition, AI technologies can be used to create virtual environments in which learners can communicate in a foreign language. Such environments include virtual interlocutors,

role-playing situations and simulations of real-life situations. Finally, a chatbot can be used for automatic assessment and feedback on the results of learning tasks. The feedback system is an important component of the educational process. AI allows creating chatbots that are able to interact with learners through dialogue, analyze their answers and give qualitative feedback. In general, the linguodidactic potential of AI technologies can significantly improve the process of foreign language acquisition, making it more accessible, interactive and personalised. Despite the successful use of AI in foreign language teaching, there are problems and limitations:

1. AI may have limitations in recognising accents, dialects and pronunciation, which can lead to inaccurate assessments and feedback.

2. AI may have limited context and understanding of natural language, which may lead to misinterpretation or incorrect assessment of learners' responses.

3. AI is orientated towards independent learning, therefore learners may experience a lack of real interpersonal contact.

It is important to use AI in combination with other methods that enable learners to apply their language skills in real-life situations.

5. Principles and methods of teaching

Teaching foreign language speech communication based on AI technologies is realised through the following teaching principles:

− individualisation: taking into account the needs and knowledge level of each learner to provide personalised material and tasks;

− active participation: interaction-based learning, including dialogues and tasks, requires the active participation of each learner;

− contextuality: building foreign language skills and competences in real or simulated situations that help learners to apply their knowledge in practice;

− feedback: providing immediate feedback on pronunciation, grammar and other aspects of the language so that learners can realise their mistakes and correct them;

− progression: increasing the difficulty of the tasks;

− motivation and engagement: using interactive and engaging methods such as games, achievement levels, etc;

− adaptability: taking into account the learner's needs and providing personalised materials and assignments;

− interactivity: providing opportunities for learners to interact with the AI, ask it questions, have dialogues.

Methods of teaching foreign language speech communication using AI technologies include:

− interactive learning applications for foreign language learning. They can offer personalised tasks according to the learner's level and needs;

− voice assistants such as Siri, Alexa can help in learning a foreign language by answering questions, doing translations and practising pronunciation;

− automatic translation can be useful for understanding and translating texts in a foreign language;

− virtual classes and online courses provide personalised materials and feedback;

− pronunciation analysis: voice assistants can analyse a learner's pronunciation, offer feedback and provide tips for improvement;

− adaptive learning: chatbots can adapt to the learner's level and needs, offering a variety of personalised tasks and materials.

The main components of a linguodidactic environment using AI technologies:

1. Learner: personal gadgets (smartphone, tablet, computer) that he/she uses to access educational materials and interact with the system.

2. Educational platform: web application that provides access to educational resources, tasks and tools for language learning.

2. Educational platform: a web application that provides access to educational resources, assignments and language learning tools.

3. Intelligent Assistant: an artificial intelligence system that answers learners' questions, provides explanations and feedback. It uses natural language processing and machine learning technologies to understand and analyse learners' responses.

4. Adaptive Assignments: a system that offers assignments and exercises tailored to individual needs and language proficiency levels. It can use artificial intelligence analytics to assess progress and provide the most appropriate assignments.

5. Online resources: database with educational materials (texts, audio and video materials, etc.).

6. Multimedia tools: interactive tools (voice and video chats) that help to improve speaking and writing skills.

7. Analytics: a system that collects and analyses data on students' progress, errors, successes and preferences. This information can be used to further personalise learning.

6. The most popular artificial intelligence tools

Artificial intelligence is a huge range of algorithms and machine learning tools that can quickly acquire data, identify certain patterns, optimise or predict trends. Many platforms (Trello, Canva, Miro, Notion, etc.) allow foreign language teachers to use artificial intelligence assistants in the teaching process, which can generate the necessary texts and tasks, images, diagrams, cards and other didactic materials in one click.

Online applications *quillionz, testportal.net, questionwell.org, quizwhiz.ai, quetab.com* and others are suitable for working with texts. For example, the *quillionz* online application automatically generates a list of keywords based on which assignments are generated. Based on the content of the text added from the Internet, the programme automatically generates interactive tasks including multiple choice, short answer, general questions, fill-in-the-blanks, interactive quizzes and more.

GPT Chat is an effective tool for assessing and analysing students' written work, capable of identifying errors and offering practical recommendations on how to correct them and improve the quality of texts. This innovative solution will help students to develop their writing skills and improve the professionalism of their writing. Using GPT chat, students have the opportunity to get an independent assessment of their texts, as well as to learn recommendations and tips aimed at improving their writing skills. Using GPT chat will be a really useful step in the learning process and contributes to the improvement of students' writing skills.

Chat GPT is a generative language model capable of generating human responses to open-ended prompts (questions, statements or prompts related to the learning material) *(Fuchs, 2023)*.

There are several ways in which Chat GPT can be used in education. ChatGPT has great potential to improve foreign language teaching in higher education. Here are some ways to use Chat GPT to improve the educational process:

1. Personalised learning. Chat GPT can be used to provide a personalised learning experience for each student. By analysing the learning style and adapting the curriculum to his individual needs, Chat GPT contributes to more effective and efficient learning *(Danesi, 2024)*.

2. Instant feedback. Chat GPT provides instant feedback to learners, allowing them to assess their progress and adjust their approach accordingly. This feedback can be in the form of quizzes, assessments, or conversational interaction.

3. Interactive Lessons. Chat GPT can be used to create interactive lessons that engage students and make learning more fun. Using dialogue prompts, quizzes, and interactive activities, Chat GPT can help learners stay engaged and interested in the content.

4. Language Learning. Chat GPT can be used to facilitate language learning by providing conversational practice and feedback; by using Chat GPT to practice communication, students can improve their language skills in a fun way *(Duggan, 2020)*.

5. Accessible learning. Chat GPT can make education more accessible by providing resources and support to learners who cannot access traditional learning materials *(Terwiesch, 2023)*. Chat GPT uses a dialogue interface to bridge the gap between learners and educational resources, regardless of their location or background.

For example, at present the most popular artificial intelligence tools used by students when learning foreign languages are text recognition and analysis services (e.g. voice assistants, chatbots, online translators, services for checking spelling, punctuation, grammar and text stylistics). A great number of chatbots help students to develop productive foreign language speech activities: writing and/or speaking. The use of chatbots contributes to the development of students' oral and written interaction of students both in and out of class time. Oral interaction with a chatbot promotes the development of skills of expressing one's thoughts and understanding the interlocutor, and written interaction promotes the development of writing and reading skills. It should be noted that when interacting with chatbots, students develop receptive and productive foreign language speech skills.

Thus, artificial intelligence tools help to facilitate the professional activity of a foreign language teacher, reducing the time for preparing for classes, developing and checking assignments. They allow to organise the learning process, make it more personalised and motivate students in learning a foreign language.

7. Conclusions

Thus, we can say that when AI is fully integrated into the educational process, the challenges of learning will reach a new level. Feedback, personalisation of learning, adaptation to everyone's needs will have a significant impact on learners. By turning to the algorithms used by artificial intelligence, teachers have the opportunity to do their work even better. The options for using AI for class preparation, course creation, and planning are only limited by the imagination of the instructor and their willingness to experiment with different requests. By using AI technologies in language learning, the process of receiving feedback is accelerated, allowing learners to define their own goals and follow a personalised learning programme.

Currently, higher education institutions are utilising AI technologies in the foreign language teaching process. Higher education institutions need to realise the range of opportunities and challenges that will become relevant with the introduction of AI. It is important to carry out research to identify new roles of the teacher in the teaching process. AI cannot completely replace the lecturer and interpersonal contacts in a real situation. The teacher is also a mentor, helping to choose an adequate response to different situations in the process of communication

in a foreign language. The teacher is a guide to the world of culture of the nation whose language he teaches.

References

1. Danesi, M. (2024) AI in foreign language learning and teaching: theory and practice. New York: Nova Science Publishers, Series: Languages and linguistics. 147 p.

2. Duggan, S. (2020) Artificial intelligence in education: changing the pace of learning. UNESCO Institute for Information Technologies in Education. [Electronic resource]. URL: https://iite.unesco.org/publications/ai-in-education-change-at-the-speedof-learning

3. Fuchs, K (2023) Exploring the opportunities and challenges of NLP models in higher education: is Chat GPT a blessing or a curse? Front. Educ. 8:1166682. doi: 10.3389/feduc.2023.1166682

4. Keshav, J. (2023) Chat GPT Hacks for teachers: a Comprehensive ChatGPT Guide for Educators for Teaching and Learning with Step-by-Step Instructions, Practical Demonstrations, Examples, Prompts, and Video Outputs. Maxlife Publishing, 641 p.

5. McLuhan, M. Understanding media: The Extension of Men. – N.Y.: McGraw Hill, 1964.

6. Odden, T.O.B., Marin, A., Rudolph ,J.L. (2021) How has Science Education changed over the last 100 years? An analysis using natural language processing // Science Education. Vol. 105. № 4. P. 653 – 680. doi: 10.1002/sce.21623

7. Terwiesch, C. (2-23) Would Chat GPT Get a Wharton MBA? A Prediction Based on Its Performance in the Operations Management Course / Mack Institute for Innovation Management at the Wharton School, University of Pennsylvania, 2023 [Electronic resource]. URL: https://mackinstitute.wharton.upenn.edu/wp-content/uploads/2023

CLOTHING AND FASHION IN CONTEMPORARY CRIME FICTION BY ROBERT GALBRAITH

Olga Kulchytska

PhD, Associate Professor,
Vasyl Stefanyk Precarpathian National University, Ukraine
e-mail: olga.kulchytska@gmail, orcid.org/0000-0002-9992-8591

Andrii Tron

PhD, Associate Professor,
Vasyl Stefanyk Precarpathian National University, Ukraine
e-mail: andriytron77@gmail.com, orcid.org/0000-0001-7154-7976

Summary

The plots of Robert Galbraith's *Strike* novels are built around the problem of crime; at the same time, the author covers a wide range of social topics that reflect today's urban culture. The descriptions of fashion tendencies, high-style apparel and clothes worn on the street, personalized styles and mundane clothing communicate the idea of social, ethnic, cultural, subcultural diversity of contemporary London.

Three general constituents of fashion phenomenon are spotlighted in Galbraith's novels: design and advertising/promotion, trade, clothes and their wearers. Their presentations are studied through Text World Theory analysis: world-builders (characters/enactors and objects), relational processes, and function-advancing propositions; linguistic cues that guide the interpretation of particular text-worlds are indicated too. At the opposite points of the spectrum of fashion phenomenon – text-worlds of designing and text-worlds of wearing clothes – the role of characters/enactors is more pronounced than that of objects: clothes are means of self-expression and self-presentation. Alternatively, clothing sometimes is a telltale sign; also, on the reception side, the effect may be opposite to the one intended. In text-worlds of advertising/promotion, the role of objects is more important than the role of enactors. In text-worlds of fashion trade, objects are often presented from the enactors' perspectives, which suggests equal importance of both world-builders. In the context of Galbraith's novels, clothes "interact" with people who create and wear them, highlighting their identities, social status, views, tastes or revealing their true nature.

Key words: Robert Galbraith, novels of the Strike series, fashion industry and consumption, attire, contemporary London, text-worlds.

1. Introduction

The *Srike* series is classic contemporary crime fiction by Robert Galbraith (J. K. Rowling), which gives its readers a broad and realistic picture of today's London. Clothing and fashion are one of the aspects of a multifaceted image of the city. The relevance of this research is determined by the popularity of the author as well as general interest in the subject of fashion. London fashion gets specific attention due to the city's dynamic design and marketing, a

marked tendency to overstep the boundaries of convention, exceptionally rich cultural fabric of the British capital, and the flourishing network of alternative-cultural street markets, such as Camden *(Breward, 2004: 19)*.

Clothes reflect sociality; they are, in a way, a depository of cultural values and one of the factors in the construction of identity *(Felshin, 1995: 20)*. While following current trends, a person still strives for self-expression and authenticity *(Michael, 2015)*. However, it is not always easy to understand a relationship between clothing and identity because attire cues may have different meanings to observers and individuals wearing particular clothes *(Feinberg et al., 1992: 18)*. Ever new versions of urban fashionability are triggered by the conflict between individualism and commodification *(Breward, 2004: 19)*. Like in other creative industries, commercial and artistic/decorative functions of fashion are not fully separated *(Demydenko, 2023: 206)*.

Peter McNeil et al. (2009: 5–6) discuss the function of fashion within the structures of fictional discourses, "From Jay Gatsby's gold and white aura in F. Scott Fitzgerald's *The Great Gatsby* to the street garb of Anthony Burgess's *A Clockwork Orange*, or modern Japanese fiction, clothes define, sustain, and give voice to social momentum and the stages of life". According to Cristina Giorcelli (2017), descriptions of clothing bring fiction closer to reality; they are indirect indications of class/gender and particular social contexts, reveal individuality (anti-fashion), generate intersubjectivity, and even express a desire for a new cultural identity. One of the functions of clothing/fashion descriptions in literary works is metonymic presentation of characters' identities and intentions. Yet this obvious role has a more sophisticated meaning than may be assumed at first glance: writers seek forming strong contractual expectations between themselves and their readers; fashion, which has its inherent meaning, helps a reader get not only a character's but also the writer's intention *(McNeil et al., 2009: 6)*. Moreover, depictions of clothes enable authors raise the topics of predestinarianism and freedom, social convention and human's ability to fulfill one's potential, adjustability and autonomy of imagination; they also show the creative potential of language that turns the commonplace into originality *(Cook, 2013: 2)*.

This study is based on the series of *Strike* novels by Robert Galbraith. The objective of the article is to examine the author's perspective on the phenomenon of fashion and clothing in the social context of contemporary London. Galbraith's descriptions of the world of fashion and Londoners' attire preferences are specific representations of the urban culture and "exemplify the real-world nature of fictional information, mak[ing] a 'bridge' between reality and literary discourse" *(Kulchytska, Erlikhman, 2024: 92)*. The tasks of the research are to discuss the following aspects of Galbraith's novels:

– constituents of fashion phenomenon – design and advertising/promotion, trade, and consumption;

– factors in creating fashion text-worlds;

– linguistic cues for interpretation of particular text-worlds;

– character-clothing relationship.

The analysis is conducted along the lines of the Text World Theory by Paul Werth (1999) and Joanna Gavins (2007, 2020). Text-worlds are regarded as mental constructs, representations of (literary) discourse (Werth, 1999: 7; Gavins, 2007: 2, 10; 2020: 4–5). They are pictures in the author's and a reader's minds built with the help of and interpreted according to linguistic cues in a particular text, and with reliance on one's background knowledge. The basic factors in creation and interpretation of text-worlds are (i) world-building elements (world-builders): spatiotemporal parameters, characters (enactors), objects; (ii) relational processes: identifying

or attributive characteristics; (iii) function-advancing propositions: presenting events, actions, states. Examination of the role of fashion and clothes in creating pictures of contemporary London in Robert Galbraith's novels involves considering (a) correlation between descriptions of designing/advertising/trade/consuming on the one hand and the above text-world factors on the other; (b) linguistic units that pertain to the subject of this research and are cues for interpretation of particular text-worlds.

2. Fashion image of contemporary London

The temporal parameters of the action in the seven already published novels of the *Strike* series *(Robert Galbraith, 2013, 2014, 2015, 2018, 2020, 2022, 2023)* are 2010–2016. The protagonists are London-based private detective Cormoran Strike and his female partner Robin Ellacott. London and Londoners are presented from the perspective of both the omniscient narrator and the two main characters.

The novels adequately reflect diversity of London's fashion image. Here are a few of the many examples: an assistant in the Vashti boutique "was wearing a tutu and fishnets"; "The area [in Shoreditch] had a large proportion of Muslim residents. Strike passed them in their hijabs and taqiyahs"; "The shoppers on Catford Broadway were wearing T-shirts and sandals; black women passed in brightly coloured head wraps"; at the entrance to the Stafford, Robin saw "a suited man hand in hand with a beautiful Asian woman in a cheongsam"; Strike's rich half-sister Prudence has clothes with labels Robin "could never have afforded: Valentino, Chanel, Yves Saint Laurent" (Robert Galbraith, 2013: 236; 2015: 404, 442; 2020: 814; 2023: 77 respectively).

Descriptions of fashion and clothing in Galbraith's novels can be divided into three classes: design and advertising/promotion, fashion trade, clothes and their wearers.

3. Design and advertising/promotion

The Cuckoo's Calling contains several vivid depictions of Guy Somé's fashion business *(Robert Galbraith, 2013: 305, 315)*: his studio, business policy, such as getting endorsements by sending customised freebies to celebrities, some products, and a fashion shoot. For instance (emphasis added):

"[…] There was a T-shirt lying on the desk, <u>which carried a picture of Princess Diana as a garish Mexican Madonna, glittering with bits of glass and beads, and complete with a flaming scarlet heart of shining satin, on which an embroidered crown was perched lopsided.</u>

'You like it?' said Somé, noticing the direction of Strike's gaze.

'Oh yeah,' lied Strike."

(Robert Galbraith, 2013: 306)

At first glance, this text-world spotlights an object, a T-shirt. The relational processes (underlined in the extract above) are expressed by a complex non-defining relative clause with a participle construction, an adverbial clause, noun/adjective phrases. The metaphors PRINCESS DIANA IS MADONNA and PRINCESS DIANA IS THE QUEEN OF HEARTS are quite transparent. According to the Text World Theory *(Gavins, 2007: 152–156)* metaphor is double vision, simultaneous coexistence of the initial text-world and the metaphorical blended world; in this case, they are the designer's studio, his product, and the image he creates. A creative person's individual conceptualization of reality is determined by the system of his/her personal

values and can focus on existential manifestations of human life *(Doichyk, 2013: 32, 34)*. Therefore, these metaphors bring to the fore the personality of the designer himself: his eclectic style is boundary-breaking; at the same time, it is obvious that he capitalizes on public sympathies for the late Princess Diana.

The next text-world is a description of a fashion shoot (emphasis added):

"[…] Here was an artful arrangement of tattered old chairs, one on its side, and three models. They were a breed apart, <u>with faces and bodies in rare proportions that fell precisely between the categories of strange and impressive</u>. <u>Fine-bones and recklessly slim</u>, they had been chosen, Strike assumed, for the <u>dramatic contrast in their colouring and features</u>. Sitting <u>like Christine Keeler</u> on a back-to-front chair, <u>long legs splayed</u> in **spray-on white leggings**, but apparently <u>naked from the waist up</u>, was a <u>black girl as dark-skinned</u> as Somé himself, <u>with an Afro and slanting, seductive eyes</u>. Standing over her in a **white vest decorated in chains, which just covered her pubis**, was a Eurasian beauty <u>with flat black hair cut into an asymmetric fringe</u>. To one side, leaning alone and sideways on the back of another chair, was Ciara Porter; <u>alabaster fair, with long baby-blonde hair</u>, wearing **a white semi-transparent jumpsuit** […]."

(Robert Galbraith, 2013: 378–379)

At first, attention is caught by the description of the three models, enactors, whose relational processes (underlined in the example above) exceed in both number and expressiveness the relational processes of objects, clothes (typed in bold style). The relational processes are expressed by adjectives, a participle construction, and an attributive clause. The characteristics of the clothing are somewhat dulled by the repetition of the same property, namely the common colour. On the other hand, the design and the material of the garments indicate a tendency to provocativeness, while the motionlessness of the scene emphasized by the verbs of stillness (the function-advancing propositions "Sitting", "Standing", "leaning") suggests that the function of the enactors is to present important objects – items of clothing.

4. Fashion trade

The author presents fashion trade through the triple opposition between what designer Guy Somé calls "proper staff that goes for upwards of three grand a coat", off the rack stuff with his logo slapped on, which makes it "sell like crazy" *(Robert Galbraith, 2013: 321)*, and cheap clothes stores in less respectable parts of London.

The description of Vashti, a fictitious boutique placed by the author in Mayfair (one of the most expensive areas of the real-world London), is several pages long and contains a number of world-switches that feed into the matrix Vashti text-world. Only some aspects of this extensive description are discussed below.

Strike and Robin fake interest in clothing just to talk to the the staff about one of Vashti's customers, a supermodel, whose unnatural death they investigate *(Robert Galbraith, 2013: 224–230)*. From Strike's perspective, the boutique sells "a multitudinous mess of life unnecessities"; he can "imagine Tansy Bestigui and Ursula May in here, examining price tags with expert eyes, selecting four-figure bags of alligator skin […]". Strike's derogatory opinion is expressed by the initial world-builder "a mess of life unnecessities", which imparts a negative colouring to the two semantically almost neutral function-advancing propositions "examining price tags with expert eyes, selecting four-figure bags of alligator skin". Pretending to be a prospective customer, Robin takes "ten thousand pounds' worth of goods into the

changing room with her, of which the sequinned coat cost[s] half. […] the thing [is] glittering like a lizard's skin". She calls the coat "fabulous" to humour the assistants; Strike privately thinks that it is "vile". Robin tries on another piece of clothing, a black dress, and feels "acutely uncomfortable in a lace and leather straightjacket". Finally, she chooses a really beautiful green Cavalli dress (described further in the text of this article).

Another, a much shorter, example of fashion trade text-world is a description of an area in Shoreditch, a part of London's East-End, where Strike browses "the many cheap clothes shops, all bearing names like International Fashion and Made in Milan and displaying sad mannequins in synthetic wigs wearing nylon and polyester" *(Robert Galbraith, 2015: 404)*.

In both examples, objects (items of clothing) are put in the focus of attention thanks to their relational processes, expressed by pre-/post-modified noun phrases (e.g. "sad mannequins in synthetic wigs"), and function-advancing propositions (e.g. "the thing [is] glittering like a lizard's skin"). The role of enactors is rather important because clothes are presented through their perceptions. Spatial parameters, descriptions of markedly different neighbourhoods, are relevant cues to interpreting each text-world. It is also notable that Vashti is mostly an epistemic modal focalization-world, while the picture of Shoreditch clothes shops is a deictic text-world.

5. Clothes and their wearers

In each particular case, clothing allows a reader to get an idea of different aspects of characters' personalities; for instance, Leonora Quine's indifference to anything beyond her family's immediate needs; vanity of Owen Quine, a mediocre writer; sexuality of Ciara Porter, a model; poor psychological and physical state of Billy Knight, a mentally ill young man from a working-class background; self-absorption of elegant Raphael Chiswell, a cynical murderer; sophisticated taste of Charlotte Campbell, a rich socialite; anxiety of Edie Ledwell and her awkward attempts to adjust to her new, greatly improved financial status, which has brought her no happiness; materialism and duplicity of Jonathan Wace, the leader of the Universal Humanitarian Church (Robert Galbraith, 2014: 17, 48, 387 and 398; 2018: 46, 201, 512; 2022: 57–58; 2023: 550 respectively). In what follows, we will discuss three examples of how attire highlights characters' personal and social identities.

The first extract is the descriptions of a Cavalli dress. Robin tries it on with the only purpose to start a friendly conversation with assistants in the Vashti boutique about one of their rich customers (emphasis added):

"The green dress was magically constructed to shrink her waist to nothingness, to carve her figure into flowing curves, to elongate her pale neck. She was a serpentine goddess in glittering viridian […]. "
(Robert Galbraith, 2013: 229)

The text-world focuses prime attention on the enactor. The dress bringing Robin's prettiness into sharp relief; the effect is achieved through relational processes and function-advancing propositions underlined in the extract above.

Yet Robin is much more than just a pretty girl. She is a kind of an "intellectual who is ready to work hard [...], often sacrificing personal happiness and facing rejection in society" *(Devdiuk, Huliak, 2022: 33)*. At work, she does not want to emphasize her natural attractiveness and finds it easier to wear not dresses but jeans *(Robert Galbraith, 2020: 662)*. While in Victorian fiction female detectives wear clothing that reflects the views of the then society on

what "befits" their gender *(Hunt, 2019: 129)*, in the 21st century, Robin is not restricted by social prescriptions. She chooses clothing that best suits her purpose in this or that situation – jeans, suits, casual of smart dresses, trainers or high heeled shoes, etc.

Another text-world exemplifies a false identity of a goth (or an emo) girl, which Robin assumes while investigating a case in Camden (emphasis added):

"The short black second-hand dress she had bought at the local Oxfam shop in Deptford still smelled slightly fusty […], and she wore it with thick black tights and a pair of black lace-up boots in spite of the warmth of the morning."
(Robert Galbraith, 2018: 470–471)

The portrait is completed with much make-up and cheap ear cuffs. The depiction of the assumed image relies on the objects and relational processes expressed by the pre-modified noun phrases, as well as on the function-advancing proposition (underlined in the example above).

The next excerpt is a picture of Rochelle Onifade, a down-and-out young woman, who – quite surprisingly – wears an expensive jacket (emphasis added):

"Her tight, too-short jeans, her shiny grey handbag and her bright white trainers looked cheap. However, the squashy fake-fur jacket, garish and unflattering though Strike found it, was of a different quality altogether: fully lined, as he saw when she took it off, with a patterned silk, and bearing the label not […] of Guy Somé, but of an Italian of whom even Strike had heard."
(Robert Galbraith, 2013: 274–275)

The juxtaposition of the cheap clothes and handbag, and the expensive jacket (the underlined pre-/post-modified noun phrases and function-advancing propositions) indicate obvious personality traits and reveal some concealed ones: lack of taste, greediness, and shortsightedness. Strike, who investigates a murder, deduces that Rochelle Onifade is stupid enough to blackmail the murderer thus making herself his next target.

The three extracts above are examples of relations between clothes and their wearers: clothing can emphasize certain qualities of a character, help a character to achieve his/her aim; on the other hand, it can expose his/her true nature.

6. Conclusions

Descriptions of clothing and fashion trends in Robert Galbraith's novels is a factor in creating a realistic image of contemporary London. The author describes or makes references to major constituents in the spectrum of fashion phenomenon: design/advertising/promotion, fashion trade, and fashion consumers. In terms of Text World Theory, world-builders such as enactors (characters) and objects (attire) are foregrounded, though not necessarily in this order. In the text-worlds of fashion design and wearing particular clothes, the enactors' role is primary; while in fashion advertising, the characters are used to direct readers' attention to the objects they demonstrate. As to the fashion trade text-words, objects are presented through either the omniscient narrator's or characters' perceptions; the latter case can give additional contextual cues for interpretation.

For the purpose of this study, we can paraphrase Gottfried Keller's (1913:11) famous words "Kleider machen Leute" (clothes make people): Robert Galbraith shows how clothes

interact with people. Fashion style and clothing can emphasize or hide characters' social and personal identities, views, attitudes, intentions, help characters attain their goals. Clothes may also reveal more about a character than he/she would like others to know. When chosen by a character (or by the author for a particular character), clothes still maintain a certain degree of "autonomy".

The genre of detective fiction allows Robert Galbraith to describe various aspects of culture and style of life in contemporary Britain. Analysis of interior designs of public spaces and private homes as depicted by the author can be an interesting subject for further research.

References

1. Breward, C. (2004). Fashioning London: Clothing and the modern metropolis. Oxford: Berg Publishers. Retrieved from: https://www.goodreads.com/book/show/6501455-fashioning-london

2. Cook, S. J. (2013). Reading clothes: Literary dress in William Faulkner and Erskine Caldwell. The Southern Literary Journal, 46(1), 1–18. Retrieved from: https://www.jstor.org/stable/24389088?read-now=1&seq=1#page_scan_tab_contentsmate

3. Demydenko, Ya. I. (2023). Textile and text: Fashion and literature in the context of high and low culture. Zakarpatski Filolohichni Studii, 2(32), 201–208. https://doi.org/10.32782/tps2663-4880/2023.32.2.35. Retrieved from: https://dspace.uzhnu.edu.ua/jspui/bitstream/lib/64337/1/TEXTILE%20AND%20TEXT%20FASHION%20AND%20LITERATURE%20IN%20THE%20CONTEXT.pdf

4. Devdiuk, I., Huliak, T. (2022). Transformation of the female detective image in the 19th and the 20th centuries English female detective prose. Philological Treatises (Filolohichni traktaty), 14(1), 27–34. https://www.doi.org/10.21272/Ftrk.2022.14(1)-3

5. Doichyk, O. Ya. (2013). Kontseptualna metafora v idiostyli Dzhuliana Barnsa: Poetyko-kohnityvnyi analiz [Conceptual metaphor in Julian Barnes' idiostyle: Cognitive poetic analysis]. Visnyk Kharkivskoho natsionalnoho universytetu imeni V. N. Karazina. Seriia "Romano-hermanska filolohiia. Metodyka vykladannia inozemnykh mov", 1051, 32–37. [In Ukrainian] Retrieved from: https://periodicals.karazin.ua/foreignphilology/issue/view/67/222

6. Feinberg, R. A., Mataro, L., Burroughs, W. J. (1992). Clothing and social identity. Clothing and Textiles Research Journal, 11(1), 18–23. Retrieved from: https://www.researchgate.net/publication/247782668_Clothing_and_Social_Identity

7. Felshin, N. (1995). Clothing as subject. Art Journal, 54(1), 20–29. https://doi.org/10.1080/00043249.1995.10791672

8. Gavins, J. (2007). Text World Theory: An introduction. Edinburgh: Edinburgh University Press Ltd. Retrieved from: https://www.jstor.org/stable/10.3366/j.ctt1r285f

9. Gavins, J. (2020). Poetry in the mind: The cognition of contemporary poetic style. Edinburgh: Edinburgh University Press. Retrieved from: https://www.jstor.org/stable/10.3366/j.ctv1c29rv5.5

10. Giorcelli, C. (2017, February 27). Fashion in 20th-century literature. Oxford Research Encyclopedia of Literature, 1–24. Retrieved from: https://oxfordre.com/literature/view/10.1093/acrefore/9780190201098.001.0001/acrefore-9780190201098-e-64

11. Hunt, A. (2019). Undressing readerly anxieties: A study of clothing and accessories in short crime fiction 1841–1911 [Thesis submitted for the Degree of Doctor of Philosophy]. Canterbury Christ Church University. Retrieved from: https://core.ac.uk/download/pdf/305121195.pdf

12. Keller, G. (1913). Kleider machen Leuter. In G. Keller. Die Leute von Seldwyla: Erzählungen von Gottfrid Keller (pp. 11–66). Project Gutenberg, February 9, 2009. Retrieved from: https://www.gutenberg.org/cache/epub/28042/pg28042-images.html#Kleider_machen_Leute
13. Kulchytska, O., Erlikhman, A. (2024). London in the novels by Robert Galbraith: A text-world perspective. Respectus Philologicus, 46(51), 91–104. http://dx.doi.org/10.15388/RESPECTUS.2024.46(51).7
14. McNeil, P., Karaminas, V., Cole, C. (Eds.) (2009). Fashion in fiction: Text and clothing in literature, film, and television. Oxford: Berg Publishers. Retrieved from: https://dokumen.pub/fashion-in-fiction-text-and-clothing-in-literature-film-and-television-9781847883773-9781847883599-9781847883575-9781474263450.html
15. Michael, J. (2015). It's really not hip to be a hipster: Negotiating trends and authenticity in the cultural field. Journal of Consumer Culture, 15(2), 163–182. Retrieved from: https://journals.sagepub.com/doi/10.1177/1469540513493206
16. Werth, P. (1999). Text worlds: Representing conceptual space in discourse. New York: Pearson Education Inc. Retrieved from: https://textworldtheory.org/wp-content/uploads/2015/02/text-worlds.pdf

Sources

1. Robert Galbraith. (2013). The Cuckoo's Calling. London: Sphere.
2. Robert Galbraith. (2014). The Silkworm. London: Sphere.
3. Robert Galbraith. (2015). Career of Evil. London: Sphere.
4. Robert Galbraith. (2018). Lethal White. London: Sphere.
5. Robert Galbraith. (2020.) Troubled Blood. London: Sphere.
6. Robert Galbraith. (2022). The Ink Black Heart. London: Sphere.
7. Robert Galbraith. (2023). The Running Grave. London: Sphere.

ARTIFICIAL INTELLIGENCE TO AUTOMATE: TRANSLATION OF TECHNICAL TERMS IN PROJECT MANAGEMENT

Oleksandr Lysychenko

Postgraduate Student, Kyiv National Linguistic University, Ukraine
e-mail: oleksandr.lysychenko@knlu.edu.ua, orcid.org/0009-0005-6791-6667

Summary

This article highlights the influence of artificial intelligence (AI) on automating the translation of technical terminology in project management. In particular, the article focuses on the use of machine translation (MT), which, thanks to their ability to process large amounts of data, cloud computing, and advanced algorithms, increase the accuracy and speed of translation of technical documentation. It is noted that AI helps to reduce translation costs and improves the consistency of terminology, which is critical for the successful completion of projects with tight deadlines. Nevertheless, challenges in this field are also identified, including the high error rate in translating highly specialized terms and the ongoing need to enhance systems to meet the varied demands of users. Different translation approaches are discussed, including neural machine translation (NMT), statistical machine translation (SMT) and rule-based machine translation (RBMT), which ensure high accuracy and smoothness of translation. Integrating AI into project management systems can also optimise communication in multilingual teams. The article highlights the growing role of AI in the translation of technical terms, which has great potential to improve efficiency in project management.

Key words: artificial intelligence, machine translation, technical terms, project management, translation automation.

1. Introduction

Artificial intelligence (AI) has greatly improved the translation automation of technical terms in project management. AI-powered machine translation (MT) systems use big data, cloud computing, and advanced algorithms to improve translation accuracy and efficiency *(Li et al, 2023)*. First of all, it significantly increases the speed and efficiency of translation, which is especially important for projects with tight deadlines or a large amount of technical documentation.

2. Advantages and challenges of using AI in automated translation

AI can process large amounts of text much faster than humans. In addition, this approach ensures consistency of terminology across all project documents, which is critical for technical projects as it reduces the risk of misunderstandings and errors due to inconsistent use of terms *(Martins, 2023)*. An equally important aspect is the reduction in translation costs, which is especially noticeable for large projects or companies that regularly need to translate technical documentation (Figure 1). For project management, AI can simplify communication, reduce misunderstandings, and increase the efficiency of multilingual teams by providing accurate translations of technical terms.

However, challenges persist, including error rates and the necessity for ongoing improvements to accommodate varying user needs. *(Li et al, 2023).* One of the most difficult challenges in the context of project management is to ensure accurate translation of highly specialised terms, which often do not have direct equivalents in other languages or may have different meanings in different contexts. AI must be able to recognise and translate such terms correctly, taking into account the context of their use. In addition, technical terminology is evolving rapidly, especially in innovative industries, which requires constant updating of AI systems' terminology databases. Moreover, AI requires large amounts of high-quality data to function effectively. Insufficient or poor quality information can lead to translation errors *(Raj et al, 2024).* Another challenge may be integration and adaptation. Integrating AI into existing project management systems can be difficult due to the need to adapt to the specific requirements and processes of each project *(Karamthulla et al, 2024).* The use of AI raises issues of ethics, data privacy, and possible biases in models that may affect the accuracy and fairness of translations *(Amini et al, 2024).* Implementing AI also requires staff training, which can be a complex and costly process, especially for large organisations *(Raj et al, 2024).* Despite these challenges, the role of AI in translation is expanding, and systems are demonstrating capabilities that can rival or surpass specialised translation tools *(Lee, 2023).*
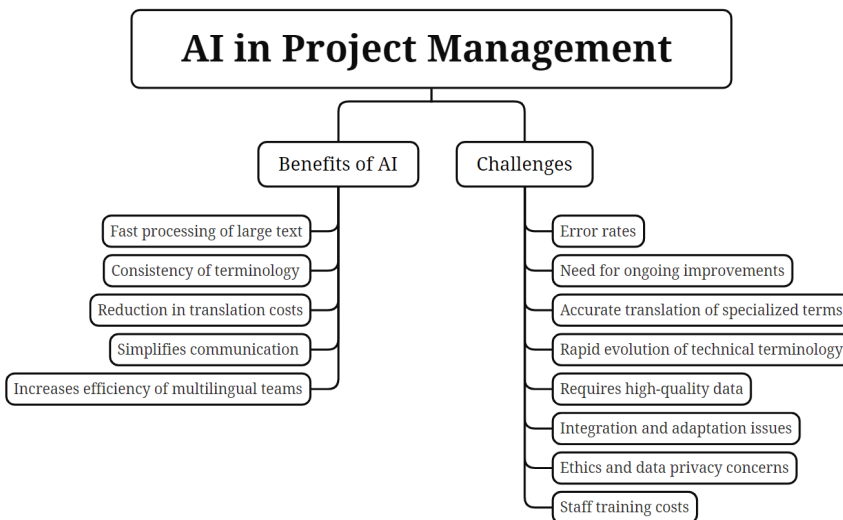
Figure 1. Benefits and Challenges of AI in Project Management

3. Methods of translation quality improvements

There are various approaches to solve these problems *(Xu et al, 2020).* Modern machine translation systems based on neural networks can be trained on specialised corpora of technical texts to improve translation quality. The use of neural machine translation (NMT) has significantly improved the accuracy and fluency of translations due to its ability to handle complex semantic structures and contexts *(Um et al, 2022).* The creation and integration of project-specific glossaries can also significantly improve translation accuracy *(Vo et al, 2024).*

A hybrid approach is often used, where AI does the bulk of the translation work and a human expert checks and corrects the result, striking the right balance between speed and quality. Combining AI with traditional translation methods, such as autoregressive models and neural network-based methods, has resulted in high levels of accuracy and fluency, particularly for English-Chinese translations *(Sumita, 2001)*. The use of deep learning algorithms and neural networks, such as Transformer, to automatically identify and correct errors in translations has significantly improved the quality of translations *(Ju and Salvosa, 2024)*. The use of cloud computing and data aggregation algorithms to process large amounts of language data, allowing translation systems to be more efficient and reliable *(Yang et al, 2024)*. These advances are contributing to the accuracy and fluency of translations, making them more suitable for use in a variety of contexts, including project management.

Hybrid translation systems using artificial intelligence (AI) combine different approaches to achieve high accuracy and fluency. Let's take a look at some of the main approaches. Statistical Machine Translation (SMT) treats natural language translation as a machine learning task. SMT uses parallel corpora to automatically learn a translation by analysing numerous samples of human translations *(Hassan and Darwish, 2014)*. Another achievement of this approach is the translation of cognates. It exploits similarities between related languages to improve translation quality, reduce resource requirements, and improve generalisation *(Bhattacharyya et al, 2016)*. Research shows that SMT can outperform neural translation techniques (NMT) in some cases, especially for resource-constrained languages *(Das et al, 2023)*.

Rule-based machine translation (RBMT) is a traditional AI-based translation approach that relies on linguistic rules and dictionaries to translate text from one language to another *(Macketanz et al, 2017)*. RBMT systems use large sets of linguistic rules and bilingual dictionaries to perform translations. These rules are manually developed by experts and cover syntax, morphology, and semantics *(Tang, 2024)*. Modern RBMT systems incorporate machine learning techniques to eliminate ambiguity in word meanings by taking into account contextual information such as part-of-speech tags, semantic concepts, and cases. This approach improves translation accuracy through a better understanding of the context *(Charoenpornsawat et al, 2002)*. RBMT can be combined with statistical or neural machine translation methods to leverage the strengths of both approaches. For example, integrating RBMT with neural networks can improve translation quality *(Schwenk, 2012)*. RBMT is particularly useful for translation between languages with significant structural differences or for languages with limited digital resources. For example, RBMT has been used effectively for translation between English and Sanskrit, and between Tunisian dialect and modern standard Arabic *(Mishra et al, 2023)*. RBMT is also being developed for low-resource languages to democratise access to machine translation services and create parallel corpora for these languages *(Torregrosa et al, 2020)*.

Example-based machine translation (EBMT) is a method that relies on a database of previously translated examples to create translations for new input sentences. EBMT retrieves similar examples (pairs of source phrases, sentences or texts and their translations) from a database and adapts these examples to translate the new input. This method is easily updated by adding new examples to the database and assigning a reliability factor to the translation result *(Alkhatib & Haider, 2024)*. EBMT systems can process structural translation examples that are highly usable, but require advanced technology to create such examples. These systems compare favourably with other approaches in terms of performance *(Aramaki & Kurohashi, 2004)*.

Neural machine translation (NMT) has revolutionised the field of machine translation by using deep learning techniques to improve translation accuracy and fluency. Attentional mechanisms allow the model to focus on different parts of the input sentence while generating each

word of the output sentence. This approach helps to cope with long sentences and improves translation quality by providing contextual information *(Luong, 2016)*. Variational NMT models introduce continuous latent variables to explicitly model the underlying semantics of the source sentences, guiding the creation of target translations. This approach improves the model's ability to capture complex semantic relations *(Zhang et al, 2016)*. Multimodal NMT integrates different forms of information, such as images, video, and audio, into the translation process. Methods such as convolutional neural networks (CNNs) and recurrent neural networks (RNNs) are used to process different modalities, significantly improving translation accuracy and fluency *(Mohamed et al, 2024)*.

Table 1

Comparison of the Benefits and Challenges of AI methods in Project Management

Method	Key Features	Advantages	Disadvantages
Neural Machine Translation (NMT)	Uses deep learning and attention mechanisms to contextualize long sentences and complex structures	High accuracy, context consideration	Requires large amounts of data for training
Statistical Machine Translation (SMT)	Utilizes parallel corpora for machine learning based on statistical analysis of human translation samples	Effective for languages with similar structures, especially among related languages	May be less effective for resource-intensive languages
Rule-Based Machine Translation (RBMT)	Based on linguistic rules and dictionaries for translating between languages	Useful for languages with different structures, does not rely on the availability of parallel corpora	Requires significant human resources to develop linguistic rules
Example-Based Machine Translation (EBMT)	Uses a database of previously translated examples, adapting them for new input sentences	Easily updated with new examples, ability to assign reliability factors	Requires a substantial number of relevant examples for effectiveness

4. Integrating AI into project management

Integrating AI translation into project management processes can take place in a number of ways. For example, automated translation can be built into document management systems to create multilingual versions of project plans, reports, and other documents. Multilingual task management systems can use AI to automatically translate tasks, comments, and status updates for international teams.

AI can also be integrated into messaging and video conferencing systems to provide real-time translation during meetings and chats. Future prospects for this technology include further improvements in translation quality through the development of deep learning and natural language processing technologies, expanded support for languages and technical fields, and tighter integration of AI translation systems with other project management tools, version control systems, and collaboration platforms *(Aldawsar, 2024)*. These improvements will allow

for more specialised and efficient translation systems for different technical fields, which will greatly facilitate the work of international project teams and increase the efficiency of multilingual project management.

5. Conclusions

There are several approaches to using artificial intelligence (AI) to automate the translation of technical terms in project management. Neural Machine Translation (NMT) has shown promise in handling large vocabularies of technical terms using a method that replaces these terms with tokens, allowing for more accurate translation when combined with Statistical Machine Translation (SMT) *(Amini et al, 2024)*.

Machine learning techniques are transforming project management by improving decision-making, resource allocation and risk assessment, which can indirectly support the translation process by simplifying project workflows *(Nair et al, 2023)*.

These advances highlight the potential of AI to improve the accuracy and efficiency of technical translation in the context of project management.

The use of artificial intelligence to automate the translation of technical terms in project management has become a practical tool in various industries. For example, large international companies such as Siemens or General Electric use AI to translate technical documentation when implementing large engineering projects where teams from different countries need to understand the same technical standards *(Kononova, 2024)*. Automated translation systems help to quickly adapt manuals or engineering reports, which reduces the cost of manual translation and reduces the risk of errors.

AI-powered translation platforms have shown improved engagement and understanding in educational environments, suggesting their potential usefulness in project management, where accurate understanding of technical terms is critical *(Kolhar & Alameen, 2021)*. In this case, AI helps to adapt educational content, including technical terminology, to regional language standards, which allows students to learn the material more easily.

References

1. Aldawsar, H A H (2024). Evaluating Translation Tools: Google Translate, Bing Translator, and Bing AI on Arabic Colloquialisms. Arab World English Journal. https://doi.org/10.24093/awej/chatgpt.16

2. Aramaki, E, Kurohashi, S (2004). Example-based machine translation using structural translation examples. https://www.semanticscholar.org/paper/b1120b76fcd549fe7bfc9f6f577b-d98e0fe9d7aa

3. Artetxe, M et al. (2018). Unsupervised Statistical Machine Translation. https://doi.org/10.18653/v1/D18-1399

4. Bhattacharyya, P et al. (2016). Statistical Machine Translation between Related Languages. https://doi.org/10.18653/V1/N16-4006

5. Charoenpornsawat, P et al. (2002). Improving Translation Quality of Rule-based Machine Translation. https://doi.org/10.3115/1118794.1118799

6. Das, S B et al. (2023). Statistical Machine Translation for Indic Languages. ArXiv, abs/2301.00539. https://doi.org/10.1017/nlp.2024.26

7. Hassan, H, Darwish, K (2014). Statistical Machine Translation. https://doi.org/10.1007/978-3-642-45358-8_6

8. *Implications of using AI in Translation Studies: Trends, Challenges, and Future Direction. Asian Journal of Research in Education and Social Sciences. 2024. https://doi.org/10.55057/ajress.2024.6.1.67*

9. *Ju, L, Salvosa, A A (2024). Research and Optimization of English Automatic Translation System Based on Machine Learning Algorithm. 2024 9th International Symposium on Computer and Information Processing Technology (ISCIPT), 1-5. https://doi.org/10.1109/ISCIPT61983.2024.10673006*

10. *Karamthulla, M J et al. (2024). Navigating the Future: AI-Driven Project Management in the Digital Era. International Journal For Multidisciplinary Research. https://doi.org/10.36948/ijfmr.2024.v06i02.15295*

11. *Kolhar, M S, Alameen, A (2021). Artificial Intelligence Based Language Translation Platform. Intelligent Automation & Soft Computing. https://doi.org/10.32604/IASC.2021.014995*

12. *Kononova, I (2024). Artificial intelligence in the field of electronic communications. XVIII International Scientific Conference "Modern Challenges in Telecommunications" MCT-2024. Conference proceedings. Kyiv. Igor Sikorsky Kyiv Polytechnic Institute*

13. *Lee, T (2023). Artificial intelligence and posthumanist translation: ChatGPT versus the translator. Applied Linguistics Review, 0. https://doi.org/10.1515/applirev-2023-0122*

14. *Li, R et al. (2023). Human-machine Translation Model Evaluation Based on Artificial Intelligence Translation. EMITTER International Journal of Engineering Technology. https://doi.org/10.24003/emitter.v11i2.812*

15. *Luong, M (2016). Neural Machine Translation. International Journal for Research in Applied Science and Engineering Technology. https://doi.org/10.5565/rev/tradumatica.203*

16. *Macketanz, V et al. (2017). Machine Translation: Phrase-Based, Rule-Based and Neural Approaches with Linguistic Evaluation. Cybernetics and Information Technologies, 17, 28 – 43. https://doi.org/10.1515/cait-2017-0014*

17. *Mahata, S et al. (2019). MTIL2017: Machine Translation Using Recurrent Neural Network on Statistical Machine Translation. Journal of Intelligent Systems, 28, 447 – 453. https://doi.org/10.1515/jisys-2018-0016*

18. *Martins, M M R (2023). Project Management Evolution: From Traditional IT Implementations to AI-Driven Projects. International Journal of Scientific Research and Management (IJSRM) https://doi.org/10.18535/ijsrm/v11i07.em03*

19. *Mishra, K., Kanojia, M., & Shaikh, A. (2023). LSTM-Based Model for Sanskrit to English Translation. V Intelligent Systems Design and Applications (c. 219–226). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-35501-1_22*

20. *Mohamed, Y. A., Kannan, A., Bashir, M., Mohamed, A. H., Adiel, M. A. E., & Elsadig, M. A. (2024). The Impact of Artificial Intelligence on Language Translation: A review. IEEE Access, 1. https://doi.org/10.1109/access.2024.3366802*

21. *Nair, M et al. (2023). Use of Neural Machine Translation in Multimodal Translation. 2023 6th International Conference on Contemporary Computing and Informatics (IC3I), 6, 130-135. https://doi.org/10.1109/IC3I59117.2023.10397780*

22. *Niehues, J et al. (2016). Pre-Translation for Neural Machine Translation. ArXiv, abs/1610.05243. https://www.semanticscholar.org/paper/d2f9cab490a506e2574e9d8a15b-c20a181ff999b*

23. *Raj, D et al. (2024). Impact of an Artificial Intelligence in Language Learning – A survey. International Journal of Scientific Research in Computer Science, Engineering and Information Technology. https://doi.org/10.32628/cseit2410218*

24. Savio, R D, Ali, J M (2023). Artificial Intelligence in Project Management & Its Future. Saudi Journal of Engineering and Technology. https://doi.org/10.36348/sjet.2023.v08i10.002

25. Schwenk, H (2012). Continuous Space Translation Models for Phrase-Based Statistical Machine Translation. https://www.semanticscholar.org/paper/5f08df805f14baa826dbd-dcb002277b15d3f1556

26. Sghaier, M A, Zrigui, M (2020). Rule-Based Machine Translation from Tunisian Dialect to Modern Standard Arabic. https://doi.org/10.1016/j.procs.2020.08.033

27. Subtitling Legal Expressions in English Series into Arabic by Netflix, Machine, and Artificial Intelligence. Pakistan Journal of Criminology. 2024. https://doi.org/10.62271/pjc.16.4.513.528

28. Sumita, E (2001). Example-based machine translation using DP-matching between work sequences. https://doi.org/10.3115/1118037.1118038

29. Tang, H (2024). Integration and Innovation of Artificial Intelligence and Traditional English Translation Methods. Applied Mathematics and Nonlinear Sciences, 9. https://doi.org/10.2478/amns-2024-1575

30. Torregrosa, D et al. (2020). Aspects of Terminological and Named Entity Knowledge within Rule-Based Machine Translation Models for Under-Resourced Neural Machine Translation Scenarios. ArXiv, abs/2009.13398. https://www.semanticscholar.org/paper/cf3d82da99aca5b-66cb17490f88e46bec0f9fdbb

31. Um, E N et al. (2022). Developing a Rule-Based Machine-Translation System, Ewon-do-French-Ewondo. Int. J. Humanit. Arts Comput., 16, 166-181. https://doi.org/10.3366/ijhac.2022.0289

32. Vo, H N K et al. (2024). Revitalizing Bahnaric Language through Neural Machine Translation: Challenges, Strategies, and Promising Outcomes. https://doi.org/10.1609/aaai.v38i21.30385

33. Wang, X et al. (2016). Neural Machine Translation Advised by Statistical Machine Translation. https://doi.org/10.1609/aaai.v31i1.10975

34. Xu, J et al. (2020). Boosting Neural Machine Translation with Similar Translations. https://doi.org/10.18653/v1/2020.acl-main.144

35. Yang, Q (2021). Profiling Artificial Intelligence as a Material for User Experience Design. https://doi.org/10.1184/R1/14376731.V1

36. Yang, X et al. (2024). English Translation System Assisted by Machine Learning and Cloud Computing Data Aggregation Algorithm. 2024 Third International Conference on Distributed Computing and Electrical Circuits and Electronics (ICDCECE), 1-5. https://doi.org/10.1109/ICDCECE60827.2024.10549679

37. Zhang, B et al. (2016). Variational Neural Machine Translation. https://doi.org/10.18653/v1/D16-1050

THE ROLE OF SOFT SKILLS IN TEACHER TRAINING IN THE MODERN EDUCATIONAL PROCESS

Iryna Malynovska

Senior Lecturer at the Department of Foreign Philology and Translation,
State University of Trade and Economics, Ukraine
e-mail: i.malynovska@knute.edu.ua, orcid.org/0000-0002-0867-3715

Iryna Barantsova

Doctor of Philosophy, Associate Professor,
Associate Professor at the Department of Germanic Philology and Methods of Teaching
Germanic Languages, Bohdan Khmelnytsky Melitopol State Pedagogical University, Ukraine
e-mail: irinabarantsova25@gmail.com, orcid.org/0000-0002-8660-8089

Summary

In the article, the authors analyse the concept of 'soft skills' and define the role of soft skills in the professional training of teachers in the modern educational process. It is established that these skills include the ability to empathise, active listening, constructive communication, conflict management and leadership qualities that contribute to the effectiveness of the teaching process, stimulate active interaction between participants in the educational process and contribute to the successful achievement of educational and professional goals. It is noted that developed soft skills allow a teacher to more effectively establish interaction with students, colleagues and the administration of a higher education institution. The ability to communicate, motivate and manage emotions creates an atmosphere of mutual understanding and trust, which has a positive impact on the success of students and forms their positive attitude to learning in general.

In the article, the authors analyse the experience of other countries in developing soft skills for teachers, in particular in the Scandinavian countries, Singapore, Canada, Australia, and Japan.

The study found that in order to develop soft skills in teachers, it is necessary to attend trainings and seminars, which will help teachers improve their dialogue skills, better understand the needs of students to resolve conflict situations and create a positive educational environment; create conditions for the professional growth of teachers, recognition of their achievements; encourage teachers to share experiences and cooperate with colleagues, which will help improve their teamwork and conflict resolution skills.

Key words: skills, educational process, soft skills, teachers. Higher education institutions, professional development.

1. Introduction

In today's world, the educational process is undergoing significant changes, which requires teachers to have not only a high level of professional knowledge, but also the development of soft skills. The analysis of scientific research suggests that soft skills include interpersonal skills, emotional intelligence, teamwork, creativity, adaptability and many other skills that

contribute to effective communication and interaction *(Cinque, 2017)*. The development of soft skills in teachers is a long-term and complex process that requires joint efforts by educational institutions, the state and teachers themselves. It is important to create conditions for continuous professional development, provide access to modern learning resources and support innovative approaches.

Today, there is no denying the importance of socialisation and individual qualities, which, along with professional skills, form the image of a progressive teacher. At the same time, the issue of bringing the potential of professional and flexible skills to a common denominator remains open.

To achieve the objectives of scientific research, a general scientific methodology was used, which reveals the content and form of teacher education. The system-functional analysis provides a complete theoretical and methodological description of soft-skills in the pedagogical cluster of education.

The purpose of the research is to analyse the reorientation of modern educational strategies from classical pedagogical paradigms based on classical hard skills to innovative pedagogical formats dominated by soft skills and to determine the role of soft skills in teacher training in the modern educational process.

2. Analysis of publications and the purpose of the study

In the scientific literature, one can find many definitions of such terms as 'competences', 'skills' and 'soft skills'. This is reflected, in particular, in the works of such researchers as L. Kartashova, I. Gevlich, L. Gevlich, Y. Katelia, O. Kurinnyi, I. Fedulova, K. Koval, L. Kibenko and others. The term 'soft skills' is often used interchangeably with such concepts as '21st century skills' (in OECD documentation) or future work skills. Thus, researcher A. Cinque gives the following definition: 'Soft skills are a dynamic combination of cognitive and metacognitive skills, interpersonal, intellectual and practical skills. Soft skills help people to adapt and behave in a positive way so that they can effectively cope with the challenges of their professional and everyday life'.

3. Analysing the definition of 'soft skills' and their role in the professional training of university teachers

Soft skills are interpreted as social and interpersonal competences that are necessary for effective communication and cooperation in the educational sphere of higher education institutions (trategy for the Development of Higher Education in Ukraine for 2021-2031, 2020). These skills include the ability to empathise, active listening, constructive communication, conflict management and leadership skills that contribute to the effectiveness of the teaching process, stimulate active interaction between participants in the educational process and contribute to the successful achievement of educational and professional goals.

As noted in the study *(Kizi, 2020),* soft skills are essential personality characteristics that help to establish effective interaction with other people and adapt to different situations. For a teacher, these skills become especially important, since the educational process is largely based on communication and interaction with students. An analysis of the results of modern scientific research makes it possible to conclude that the main soft skills required by teachers include:

1. Emotional intelligence – the ability to understand and manage one's emotions, as well as to recognise the emotions of students to create a favourable educational environment.

2. Communication skills – the ability to convey information clearly and understandably, actively listen and provide feedback to students.

3. Creativity – the ability to create innovative approaches to teaching, which allows you to better engage students and adapt the educational process to their needs.

4. Teamwork skills – necessary for cooperation with colleagues and administration to organise joint projects.

5. Adaptability and flexibility – the ability to quickly adapt to changes in curricula, technologies, and the needs of modern youth.

A similar opinion is shared by scientists in their study *(Bates, 2018),* noting that a teacher needs continuous professional development and training. Of course, we are not referring to the teaching profession, which ends with the acquisition of an educational qualification and the necessary fundamental professional skills. Improvement of professional skills is ensured by flexible skills.

It is worth noting that in order for soft skills to become an integral part of a teacher's professional activity, it is necessary to constantly improve these skills and implement them through participation in professional communities and conferences (exchange of experience with colleagues helps to develop communication skills and enrich pedagogical experience); analyse their own activities and reflect (reflection on their behaviour and the results of interaction with students helps teachers to better understand their strengths and weaknesses); use technology to improve learning (the use of interactive teaching methods and digital platforms contributes to the creation of an inclusive educational environment and increases the engagement of students).

4. Impact of Soft Skills on the quality of the educational process

Based on the analysis of a wide range of sources and scientific works on the problem under study, the dominant conceptual understanding of the problem is that Soft skills affect the quality of the educational process in several important aspects:

1. Increasing the motivation of students – teachers with developed communication skills and emotional intelligence are able to create a positive atmosphere in the classroom, which increases the motivation of students to learn.

2. Improved understanding of the material – the ability of the teacher to adapt the way of presenting the material to the needs of different students contributes to better knowledge acquisition and the development of critical thinking *(Kondrashova, 2024).*

3. Creating partnerships with students – empathy and active listening skills help teachers establish trusting relationships with students, which contributes to the formation of a partnership model of learning *(Kondrashova, 2020).*

Soft skills of a university teacher give him or her the opportunity to gain advantages in the educational process and in the educational market, provided they are skilfully used *(Kizi, 2020).* Soft skills also play an important role in the organisation of the educational process of future specialists, influencing their formation as members of society. Teachers who have the appropriate qualities ultimately contribute to the creation of a proper image of the institution and its competitiveness in the education market. Developed soft skills allow the teacher to more effectively establish interaction with students, colleagues and the administration of the higher education institution. The ability to communicate, motivate and manage emotions creates an atmosphere of mutual understanding and trust, which has a positive impact on students' academic performance and shapes their positive attitude to learning in general. For example, a teacher who has active listening skills is able to better understand the needs of the student and

find approaches to each, which contributes to better knowledge acquisition. It is also worth noting that soft skills play an important role in creating the image of a higher education institution. Teachers who demonstrate a high level of empathy, creativity and teamwork become ambassadors of the university, representing it not only within the educational process but also at external events, conferences and educational forums. This helps the higher education institution to be visible among others and attract more applicants interested in a high-quality and innovative approach to education.

Soft skills also help teachers to adapt to modern labour market requirements and changes in education. This is important in the context of digitalisation and the integration of the latest technologies into the educational process, as skills such as flexibility, lifelong learning and critical thinking allow teachers to quickly master new teaching methods and use modern educational platforms. This not only increases the level of professional competence of the teacher, but also provides students with access to relevant knowledge and practices. Ultimately, the presence of developed soft skills in a teacher is the basis for the formation of a professional culture in students preparing to enter the labour market. A teacher who demonstrates the importance of communication skills, collaboration and problem-solving by his or her own example becomes a role model. This contributes to the formation of the same traits in future professionals that are necessary for their future professional activities and successful integration into society *(Chykurova, 2022)*.

5. Experience of other countries in developing soft skills for teachers

The development of soft skills among teachers is a priority in many countries, as it helps to improve the quality of education and make the educational process more efficient. Let us consider some approaches and initiatives in this area:

In Finland, which is considered one of the leaders in education, special attention is paid to the development of emotional intelligence and creativity in teachers. Professional development programmes for teachers include trainings on emotional resilience, effective communication and teamwork. Teachers learn how to create a friendly and supportive environment in an educational institution, which contributes to better learning by students.

In Singapore, teachers are trained as part of the 21st Century Competencies programme, which includes the development of leadership, critical thinking and emotional intelligence skills. Much attention is paid to coaching, meaning that teachers are trained to work with students as mentors, helping them develop not only academic knowledge but also social skills.

Studying Canada's experience, it is worth noting that teacher training programmes focus on the integration of soft skills through practical experience. Teachers take part in workshops that include modelling classroom situations, conflict resolution, and stress management techniques. This helps teachers to be prepared for unforeseen situations in the teaching process.

In Australia, teachers undergo specialised courses that include training in classroom management, empathy, and the use of technology to create an interactive learning environment. As part of the Teacher Quality Reforms programme, teachers learn to create partnerships with students and develop critical and creative thinking skills. An important aspect is the emphasis on cultural sensitivity, which helps teachers work in a multicultural environment *(Sheretiuk, 2023)*.

In Japan, the approach to developing soft skills among teachers is focused on traditional values and the concept of 'omotenashi' – a culture of hospitality. Teachers learn empathy and respect for students, as well as the ability to create a comfortable learning environment. This is combined with modern training in audience management and creativity, which helps teachers to effectively solve problems in the educational process.

Comparing the practice of developing soft skills in higher education institutions in the Scandinavian countries, we observe the following trend: in Sweden, the focus is on developing leadership skills, analysis and timely response; in Norway, critical thinking, communication and conflict resolution skills; in Denmark, presentation and self-improvement skills. In all three countries, the development of skills such as complex problem solving, information analysis, collaboration, continuous learning and empathy is practiced.

6. Results of the study

The development of soft skills in higher education teachers is one of the most important factors in ensuring high quality education. Pedagogical experience and analysis of scientific research allow us to determine the importance of soft skills for a university teacher in the educational process:

− Effective communication: the ability to convey information clearly and understandably, to lead discussions, and to motivate students to learn.

− Emotional intelligence: understanding one's own emotions and those of others, the ability to empathise and create a positive educational environment.

− Creativity: the ability to think outside the box, generate new ideas and approaches to learning *(Sheretiuk, 2023).*

− Leadership skills: the ability to organise the educational process, motivate students, and work in a team *(Bates, 2018).*

− Adaptability: the ability to quickly adapt to changes, use new technologies and teaching methods.

In order to develop soft skills, teachers need to attend trainings and seminars, which will help them improve their dialogue skills, better understand the needs of students to resolve conflict situations and create a positive educational environment; create conditions for professional growth of teachers, recognition of their achievements; encourage teachers to share experiences and cooperate with colleagues, which will help improve their teamwork and conflict resolution skills; apply skills in practice (perform tasks that involve the use of knowledge in the workplace, because it is regular practice combined with feedback that allows you to adjust and improve skills, which eventually transforms into a sustainable skill).

7. Conclusions

The development of soft skills is a key component in the training of a modern teacher. Possession of these skills allows teachers not only to improve the quality of teaching, but also helps to create a productive and favourable educational environment for students. It is through the development of soft skills that teachers can more effectively adapt to rapid changes in education and maintain a high level of professionalism in the modern educational process. The development of soft skills in higher education teachers is of strategic importance both for the personal professional growth of teachers and for ensuring the competitiveness of higher education institutions and training specialists who will be able to meet the challenges of the modern world *(Cinque, 2017).*

References

1. Bezlyudna N., Dudnyk N. (2021). Formation of soft skills in future teachers as a condition for the implementation of the professional standard of the teacher. Psychological and pedagogical problems of the modern school. 2 (6) 137-143. [in Ukrainian]

2. Bates C. C., Morgan, D. N. (2018). Literacy Leadership: The Importance of Soft Skills. The Reading Teacher, 72(3), 412– 415. [in English].

3. Chykurova O., Boiaryshcheva T., Herych M., Kviatkovska A., Tymoshchuk O. (2022). Aplicación de las tecnologías de la información en el proceso educativo bajo la ley marcial. Apuntes Universitarios, 13(1). https://doi.org/10.17162/au.v13i1.1325 [in English].

4. Cinque A. (2017). MOOCs and Soft skills: A comparison of different courses on creativity. Journal of e-Learning and Knowledge Society. 13(3), 83-96. [in English].

5. Kizi K. (2020). Development of soft skills in higher education. Universal Journal of Educational Research. 8.5: 1916-1925. [in English].

6. Kondrashova O.V., Deshchenko O.M., Khodykina Y.Y. (2024). Advanced innovations in teaching soft skills: Prospects and forecasts for higher education in Ukraine. Pedagogical Academy: scientific notes. 2(8). 114-118[in Ukrainian]

7. Sheretiuk R. (2023). Participation of art students in creative competitions and projects as a tool for developing soft skills (on the example of the experience of the department of fine and decorative arts of rivne state university of the humanities). Publishing House "Baltija Publishing.3(4).102-109[in English]

8. Strategy for the Development of Higher Education in Ukraine for 2021-2031. (2020). Kyiv: Ministry of Education and Science of Ukraine. 71p. URL:https://mn.gov.ua/storage/app/media/rizne/2020/09/25/rozvitku-vishchoi-osviti-v-ukraini-02-10-2020.pd. [in Ukrainian]

9. Studinski V. (2020). Soft Skills of a Vocational School Teacher as a Factor of His Competitiveness. Economic Bulletin of the University. (47), 41-46. [in Ukrainian]

RESPONSIBILITY IN THE AGE OF CHANGE: PAUL RICOEUR'S PHILOSOPHICAL ANTHROPOLOGY AS A KEY TO CONTEMPORARY CHALLENGES

Medzhidova Nargiz Hamid

Ph.D. in Philosophy, Associate Professor at the Department of Philosophy,
Baku State University, Azerbaijan
e-mail: nmajidova@bsu.edu.az, orcid.org/0000-0002-3404-3493

Summary

The problem of identifying the main characteristics of humans has been and remains relevant; however, its significance has only grown in the context of contemporary scientific development. At this stage of civilizational progress, with increasing intellectual, informational, and technological challenges, and rising demands on humans in a competitive world, understanding the person as a social subject endowed with specific abilities becomes essential. Exploring P. Ricoeur's philosophical anthropology is necessary as his concept of the "capable human" encourages a positive view of the social subject, which is crucial for addressing many contemporary issues and finding reliable existential foundations for human existence. Ricoeur's concepts, such as "capability," "the capable human," "human action," "recognition," "responsibility," "promise," "memory," and others, have enriched philosophical anthropology. Their comprehension, on the one hand, broadens the tools available in the national philosophy of the human, and on the other, aids in forming an active and responsible outlook necessary in today's world. Our rapidly changing world presents new questions as social, economic, and environmental conditions evolve. In the age of digital technology, anthropogenic climate change, and the potential emergence of artificial superintelligence, a heightened awareness and cultivation of responsibility become paramount. This article examines how Paul Ricoeur's philosophical anthropology can respond to the challenges of the modern era and discusses how his ideas may foster responsible and meaningful behavior.

Key words: capable human, will, freedom, ethics, morality, the Other, fallibility.

1. Introduction

The changes brought about by the broad expansion of Homo sapiens into Earth's ecosystems have led to a global socio-ecological crisis that persists today. The optimism that characterized early 20th-century scholars and thinkers, grounded in faith in human creativity and technological progress supported by the achievements of the industrial revolution, has proven unfounded. In the past, humans had to adapt their activities to the natural world, accounting for seasonal changes or river flows, for instance. However, today, with rapid scientific and technological progress, the surrounding environment increasingly adapts to human lifestyles, which has become a defining characteristic of the new era. Various interpretations of changes in the relationship between society and nature have given rise to numerous terms and approaches to describe the contemporary era. Opinions increasingly emphasize that the pursuit of comfort and abundance, as well as the growing needs of an expanding population fulfilled through technological progress, disrupts the balance of existing

systems. This problem has become more complex, encompassing not only the rise in technological capabilities and impact on natural processes but also the cultural, economic, social, and environmental consequences of this influence. Disillusionment with former utopian ideals, the worsening ecological situation due to the irrational use of natural resources, and civilization's inability to correct its own errors have led to a crisis in the idea of human superiority and humanism. From being a supreme being with reason and the power to alter the planet's face, humans have once again become dependent on external forces. In the past, nature set the direction for development, but now that role is assumed by technologies initially created for global societal and planetary change. Civilization's dependency on technological progress has grown alongside the acceleration of scientific and technological development, and by the end of the 20th century and into the 21st, as global problems have multiplied, this has led to an awareness of humanity's limitations. With this realization, a new concept emerged–the idea of creating artificial superintelligence that might one day solve the accumulated problems. This crisis has underscored the importance of a new form of responsibility, without which civilization may show signs of collapse. This challenge brings us to Paul Ricoeur's thought on ethics of responsibility in the modern age, which considers the historical and collective roots of issues that are global in nature, affecting all, though to varying degrees. While such an ethics of responsibility cannot entirely resolve environmental degradation, it paves the way for more active participation in combating the new vulnerabilities of the anthropogenic age.

2. From the Anthropological Act to Responsibility

One of Ricoeur's main objectives in his work was to develop a concept of the human being, drawing on key philosophical currents of his time, such as the philosophy of life, phenomenology, existentialism, personalism, psychoanalysis, hermeneutics, structuralism, analytical philosophy, and others. These movements, rooted in ancient thought and based on the ideas of predecessors like Kant, Fichte, and Hegel, have significantly contributed to the understanding of human nature. Throughout his research career, Ricoeur addressed fundamental questions relevant to his contemporaries. He views philosophical anthropology as analogous to the humanities: it does not replace them but rather engages in dialogue with them, avoiding reductionism. He directs his critique not so much at the idea of the "death of man" but at its counterpart–the concept of humanity that has emerged relatively recently *(Prouteau, 2023)*.

Paul Ricoeur began examining key anthropological phenomena early in his philosophical journey. The findings from his initial research laid the foundation for his further reflections and the development of his concept of the "capable human." One of the central phenomena of human existence, according to Ricoeur, is the anthropological act, the nature which he explores in his dissertation *Freedom and Nature: The Voluntary and the Involuntary (Ricoeur, 1966)*. In this work, he pays particular attention to the physical characteristics of human actions.

Ricoeur distinguishes between two types of anthropological acts based on the level of control a person exercises over their actions: involuntary and voluntary. According to Ricoeur, involuntary action is an interaction between a person and the surrounding world, where the body automatically engages in action without requiring further conscious control from the subject *(Ricoeur, 1966: 233)*. He classifies automatic acts, performed at the reflex level, such as walking, running, and breathing, under this category.

In his study of intentional actions, Ricoeur defines them as tools for expanding human capabilities: "The more I do on my own and the more I am capable of doing, the broader my possibilities" *(Ricoeur, 1966: 64)*. He emphasizes that voluntary action is essential for the core

anthropological traits of a human. Voluntary acts express and embody a person's inner aspirations, desires, needs, and motives. For Ricoeur, intentional action is directly linked to the will. Furthermore, he considers the will as a unique form of action that "complements the meaning of external motivators," such as emotions, needs, and habits *(Ricoeur, 1966: 5)*.

Ricoeur identifies several stages in the process of executing a voluntary act: decision, action, and reconciliation. At each of these stages, voluntary and involuntary components of human nature interact. Notably, at each stage of an intentional action, a person becomes aware of their responsibility for the future. Ricoeur underscores the significant role of responsibility in the final stage of a voluntary act.

For Ricoeur, the concept of responsibility has a broad meaning. He highlights the connection between a person's ability to act and their responsibility for their actions. Within his concept of the "capable human", responsibility can be understood as aligning one's actions with the moral norms accepted by society. Later, Ricoeur emphasizes the link between action and responsibility as a crucial ethical thread in developing the concept of the "capable human." Two aspects are particularly noteworthy: the systematic way he presents his ideas and the emphasis on high-ethical qualities in individuals, evident even in his early works.

Ricoeur underscores the close interaction of different types of human activity, pointing out that during the performance of an anthropological act, the line between voluntary and involuntary actions becomes blurred. The intended act is realized through muscular effort, resulting in an event. Ricoeur believes this is possible because "I plan this action" *(Ricoeur, 1966: 54)*. At this stage, involuntary factors, such as habits and instincts, have a significant influence, shaped by previous experiences.

At the stage of reconciliation, responsibility becomes the key element. Analyzing the consequences of action, Ricoeur discusses an important ethical component–responsibility, which he later identifies as a distinct human capacity. He states, "To decide means, first and foremost, to project a practical possibility of action that depends on me and then to take responsibility" *(Ricoeur, 1966: 86)*. The issue of responsibility is a central theme that Ricoeur explores throughout his career. In his works, he uses the model of responsibility as attribution, implying self-ascription of responsibility, which links the individual to their actions. Ricoeur's concept of l'homme capable, or the "capable human," represents the pinnacle of his work on responsibility. In this concept, responsibility as attribution becomes a fundamental capacity directed toward others, while the reflective "I" gains greater influence over itself as both subject and moral agent *(Le Chevallier, 2024)*.

3. Freedom and Responsibility in the Concept of the "Fallible Man"

Ricoeur also addresses the problem of the "fallible man". In his view, evil arises because of the profound freedom inherent in humans, and it is realized through their abilities to act and exist. Human actions can take both positive and negative directions, with the latter revealing the essence of the "fallible man". By interpreting freedom, laws, and moral norms in different ways, a person may act in opposition to the established societal order.

Ricoeur writes, "Alongside the capacity to follow a certain law (or what I call a law for myself), I also discover with horror my capacity to act against it. Indeed, the experience of conscience, which speaks of the relationship between freedom and duty, is dual: on the one hand, I acknowledge my duty, that is, the capacity to fulfill this duty, but on the other hand, I recognize my potential to act against the law, which continues to present itself as an obligation. This experience is commonly known as the experience of breaking

the law" *(Ricoeur, 1969)*. This dual experience exposes the conflict between freedom and obligation.

According to Ricoeur, responsibility is not only an obligation but also a manifestation of human freedom. In this context, he suggests viewing responsibility as a conscious act arising from the understanding of the connections between personal freedom and social duty. Ricoeur emphasizes that individuals should strive for harmony between their own desires and their obligations to society. Responsibility arises from the recognition of the other, from the awareness that we are not alone in this world and that our actions affect the lives of others.

In Fallible Man, Ricoeur primarily reflects on human creativity, through which individuals shape themselves. However, he also asserts that evil, or destructive activity, is an integral part of human nature: "The capacity for evil is embedded in human constitution" *(Ricoeur, 1986: 133)*. He views evil as a potentiality, a part of which is the inclination toward sin, referring to it as "potential".

Ricoeur underscores the importance of philosophical and anthropological reflection on human passions as a foundation for understanding fallibility. At the root of anthropological sinfulness lies the limitation of human nature, which aspires to infinity but is conscious of its finiteness. According to many scholars, Ricoeur sees this inner conflict as the primary source of anthropological sinfulness. For example, B. Kristensson supports Ricoeur's view that the contradiction between finiteness and infinity serves as a source of human fallibility, explaining it through inner limitations and conflicts *(Kristensson, 2010: 21)*. O. Abel and J. Poree also emphasize the importance of this disproportion in the concept of fallibility, identifying it as a fundamental element of anthropological nature *(Abel, Poree, 2007: 36)*.

These studies highlight the significance of the discourse on fallibility within Ricoeur's philosophical anthropology. Summarizing various perspectives and expressing his own, Ricoeur concludes that the contradiction between human desires and capacities is the main reason for anthropological fallibility. This contradiction is especially evident in intentional, voluntary acts, where individuals confront the misalignment between their personal aspirations and objective conditions. By overcoming these internal contradictions, a person affirms themselves as the "capable human" – only by exerting willful effort can one realize an intentional act.

4. The Role of the Other and Ethical Responsibility

In Oneself as Another, Ricoeur examines the role of the "other" in the process of defining various human capacities, including linguistic ones. Here, an evolution in his views can be observed: while he previously regarded "the word" as part of an individual, he now asserts that language abilities are shaped through dialogue. This shift in his thinking reflects an effort to see dialogical exchange as a means of affirming human existence. The response from the Other to our question provides a sense of our own existence.

Analyzing human capacity for action, Ricoeur also explores the issue of self-definition, where the "I" is the author of its actions and the relationship between the acting subject and the action itself. He defines the capacity for action as a form of movement linked to confidence in one's abilities (I can) and control over one's body. These characteristics, in Ricoeur's view, enable a person to become the author of their action, meaning they can perform an act they fully control. This approach reflects the influence of his earlier works, where he examined the voluntary nature of intentional "I" actions. The element of confidence introduced in this analysis highlights Ricoeur's evolving views on the issue of action. The link between action and its subject is not merely observable; it is a capability in which the subject experiences full confidence.

Such a synthesis allows Ricoeur to identify the capacity for action as one of the most significant anthropological characteristics of humans.

According to Ricoeur, the human capacity for action also manifests in interaction with others: "You, by believing in me and counting on me, help me remain a subject endowed with capabilities" *(Ricoeur, 1985)*. The need to reveal multiple human capacities leads Ricoeur to further develop his anthropology through ethical issues. The goal is to deepen the question of *homo capax*–a human being capable of taking responsibility for their actions, where a key aspect is the ability to bear responsibility for one's actions. This evolution in his thinking demonstrates his desire to explore the consequences of human actions more deeply, where, in Ricoeur's view, the ethical dimension plays a decisive role *(Renaud, 2024)*. It is important to note that responsibility–the ability to foresee and assess actions–becomes a crucial aspect of action. Ricoeur points out that "a kind of uncertainty penetrates the conceptual space, and the modern use and spread of this term raises questions, especially as it goes beyond its legal meaning" *(Ricoeur, 2000)*. He defines responsibility as a person's capacity, viewed as an acting and perceiving "I," to rely on others and take responsibility for their actions as their author *(Ricoeur, 1992)*.

More specifically, within the concept of the person as vulnerable, self-improving, and possessing a constant identity within "institutionalized socio-cultural structures" *(Helenius, 2016)*, responsibility at the individual level is seen as the practical expression of a person who acts freely and consciously, capable of evaluating their actions and being evaluated by others in personal relationships (such as friendship) and in institutional relationships (mediated by organizations). In terms of morality and law, the concept of responsibility is closely associated with the idea of imputation, that is, the notion of "attributing an action to its agent, provided ethical norms that describe the action as proper and wise are followed" *(Deweer, 2016)*. Thus, "imputation implies not only attributing responsibility for an action to a specific person but also responsibility for an action that can be assessed as permissible or impermissible, determining guilt or innocence" *(Ricoeur, 1992)*.

In his early phenomenological study of the will, Ricoeur emphasizes that "the possibility of judging my actions, of receiving praise and blame in the world of sanctions, is rooted in the legitimacy of my responsibility" *(Ricoeur, 1966)*. Exploring the relationship between individual and collective responsibility, Ricoeur distinguishes between moral responsibility, associated with individuals' actions, and political responsibility, concerning society's collective actions *(Ricoeur, 1991)*. His approach to responsibility permeates his entire philosophical anthropology, from his early phenomenological studies on the structure of will and human fallibility to later works on justice, memory, and recognition.

The philosopher highlights the importance of social norms and laws governing anthropological actions. These rules, established by social institutions, provide control and support in performing actions. Ricoeur emphasizes that one person's actions can impact another's life space. People not only rely on each other in carrying out their actions but are also involved in them. In this context, the philosopher notes that action and experience are distributed between two subjects–the agent and the one who undergoes the action. These roles are interchangeable, and each participant is involved either as an active subject or as a recipient. Each agent "takes responsibility for an action based on reciprocity, which turns the rule of justice into a rule of equality" *(Ricoeur, 1990: 382)*.

From this, several conclusions can be drawn. First, Ricoeur views responsibility as a fundamental principle of action that leads to the formation of moral and ethical norms in society. Second, the relationship between the "I" and the "Other" in realizing the capacity for action

is based on dialogical interaction. It is also important to note the concept of "action–responsibility" within Ricoeur's philosophical anthropology, emphasizing the systematic nature of his approach to developing the idea of the "capable human." The philosopher often connects anthropological capacities with other capacities of the "I." For example, the capacity for action is achieved through understanding and accepting responsibility for one's actions.

Ricoeur also analyzes the human capacity for narrative, drawing on conclusions from his earlier works. He himself highlighted the connection between Time and Narrative and Oneself as Another. The philosopher examines identity through the process of self-realization via storytelling: through life stories and memories, the "I" forms a sense of self. Narrative identity, according to Ricoeur, serves as a "scaffolding" supporting more complex reflections on personal identity. Without this support, the development of identity would be impossible. Ricoeur also stresses that narrative identity serves as a connecting element between linguistic capabilities and the ethical responsibility of the "I." Narration is closely related to action, as in stories, one describes their actions, thereby creating a space that imitates the surrounding reality, which can be represented in "one or another narrative form" *(Ricoeur, 1985)*.

This evolution in his views demonstrates his desire to delve deeper into the consequences of human actions, where, according to Ricoeur, the ethical dimension plays a crucial role. It is essential to note that responsibility–the ability to foresee and evaluate one's actions–becomes a defining moment in action. Thus, in Ricoeur's understanding, the "capable human" is one who acts responsibly.

Ricoeur emphasizes that human abilities, such as acting, speaking, and storytelling, are seen as preparatory stages for forming an "ethical subject." Constructing this subject, as the philosopher explicitly states, is one of his work's main objectives. A person, as the author of their words, the subject of their actions, and the hero of their own stories, places themselves within the concept of good and evaluates their actions regarding achieving a good life. The capacity to bear responsibility for one's actions and moral accountability to oneself defines the meaning of capacity in Ricoeur's view: "I am a being capable of evaluating my actions, seeing some of them as good, and thereby capable of evaluating myself as good. The discourse of 'I can' is, without a doubt, the discourse of the 'I,'... which, in its ethical aspect, corresponds to the capacity for judgment" *(Ricoeur, 1990)*.

According to Ricoeur, a subject capable of judging their actions forms their identity based on a hierarchy of values that determines their deeds. In his studies, Ricoeur frequently links responsibility for actions with the relationship between the "I" and the "Other." The "I" retains its value only when it lives in such a way that the Other can rely on it: "Because someone relies on me, I am responsible for my actions toward the Other" *(Ricoeur, 1990)*. Thus, responsibility is realized through interactions with others, making it an essential condition for its fulfillment.

The concept of "responsibility" in Ricoeur's philosophy is often associated with the phenomenon of the "Other," which creates a certain paradox: responsibility, while subjective, also possesses an intersubjective nature. Considering responsibility as a phenomenon that connects various temporal aspects of a person's being, Ricoeur emphasizes its importance in the past, present, and future. Responsibility includes commitments made in the past, to be fulfilled in the future, and which are always present. In the context of the future, responsibility is easily understood: "Responsibility implies that a person takes on the consequences of their actions, considering certain future events as their own" *(Ricoeur, 1990)*. Although this responsibility is more often governed by legal norms, moral principles also influence the "I's" choices. In retrospect, responsibility is expressed through the awareness of duty regarding the consequences of one's

actions. The past and future connect in the present: "To be responsible today means to be the same one who acted yesterday and will act tomorrow" *(Ricoeur, 1990).* In this understanding, human life resembles an "accounting ledger," where all deeds are recorded.

Ricoeur emphasizes that the capacity for responsibility is one of the most humanistic characteristics of the "capable human." Responsibility enables individuals to care not only for themselves but also for the "Other," avoiding harm to them. In these reflections, the philosopher's aspiration for a new spiritual and humanistic paradigm in contemporary philosophical anthropology is evident.

5. Conclusions

The modern era is characterized by complexity and uncertainty. Global issues such as climate change, social inequality, migration crises, and technological development demand a high degree of responsibility from individuals. Paul Ricoeur's philosophical anthropology offers valuable tools for understanding and cultivating responsibility, which are especially relevant in the face of contemporary challenges. His ideas on the importance of self-knowledge, empathy, and recognizing others help individuals to understand their place in the world and the significance of their actions. Cultivating responsibility becomes an integral part of forming a mature personality capable of making thoughtful decisions and striving for harmony with the surrounding world.

Understanding responsibility as an expression of freedom and accountability to others enables each of us to contribute to building a fairer and more sustainable world. Ricoeur inspires us to seek answers to the complex questions of our time and to remember that each person can change the world, starting with their own behavior. Responsibility, according to Ricoeur, implies a willingness to accept the consequences of one's actions and consciously engage in society. He emphasizes that the act of responsibility requires both freedom of will and reflection, that is, the ability to analyze one's actions and their impact on others.

The modern age is characterized by complexity and uncertainty. Global problems such as climate change, social inequality, migration crises, and technological development demand a high degree of responsibility from individuals. Paul Ricoeur's philosophical anthropology provides essential tools for understanding and cultivating responsibility, relevant to contemporary challenges. His ideas on self-knowledge, empathy, and recognizing the other help individuals comprehend their place in the world and the significance of their actions. Cultivating responsibility is an essential aspect of shaping a mature personality capable of making thoughtful decisions and striving for harmony with the surrounding world. Understanding responsibility as an expression of freedom and accountability to others enables each of us to contribute to building a fairer and more sustainable world. Ricoeur inspires us to seek answers to the complex questions of our time, remembering that each person can change the world, starting with their own behavior. Responsibility, according to Ricoeur, implies a readiness to accept the consequences of our actions and consciously engage in societal life. He emphasizes that the act of responsibility requires both free will and reflection, that is, the ability to analyze one's actions and their impact on others.

References

1. Abel, O., Poree, J. (2007). *Le vocabulaire de Paul Ricoeur / O. Abel, J. Poree. Paris, 93 p.*
2. Deweer, D. (2017). *Ricoeur's Personalist Republicanism: Personhood and Citizenship. Lanham: Lexington Books, p. 133.*

3. Helenius, T. (2016). Ricœur, Culture, and Recognition: A Hermeneutic of Cultural Subjectivity. Lanham: Lexington Books, p. 118.

4. Kristensson B. U. (2010). Ricoeur, Hermeneutics and Globalization / B.U.Kristensson. London. 143 p.

5. Le Chevallier, M. (2024), Responsibility in the Anthropocene: Paul Ricoeur and the Summons to Responsibility Amid Global Environmental Degradation. J Relig Eth, 52: 231-261. https://doi.org/10.1111/jore.12472

6. Prouteau, F. (2023). Education for Responsibility in the Anthropocene in the Light of Paul Ricoeur. In: Wallenhorst, N., Hétier, R., Pierron, JP., Wulf, C. (eds) Political Education in the Anthropocene. Anthropocene – Humanities and Social Sciences. Springer, Cham. https://doi.org/10.1007/978-3-031-40021-6_6

7. Renaud, M. (2024). Après la « petite Éthique » de Paul Ricœur (1990), le sens de sa révision (2001) Études Ricœuriennes / Ricœur Studies Vol 15, No 1 (2024) ISSN 2156-7808 (online) DOI 10.5195/errs.2024.644 http://ricoeur.pitt.edu

8. Ricoeur, P. (1966). Freedom and Nature: The Voluntary and the Involuntary / P.Ricoeur. Evanston, 498 p.

9. Ricoeur, P. (1969). Le conflit des interpretations. Essais d'hermeneutique / P. Ricoeur-Paris, 671 p.

10. Ricoeur, P. (1985). Temps et recit. Tome III: Le temps raconte / P. Ricoeur. Paris: Le Seuil, 428 p.

11. Ricoeur, P. (1986). Fallible Man / P. Ricoeur-New York: Fordham University Press, 146 p.

12. Riceour, P. Soi-memee comme un autre / P. Riceour. Paris: Le Seuil, 1990. 426 p.

13. Ricoeur, P. (1991). La culpabilité allemande. In Lectures I. Autour du Politique. Paris: Seuil, pp. 143-154.

14. Ricoeur, P. (1992). Oneself as Another, trans. K. Blamey. Chicago-London: University of Chicago Press. [French original 1990], p. 165.

15. Ricoeur, P. (2000). The Concept of Responsibility. An Essay on Semantic Analysis. In The Just, trans. D. Pellauer. Chicago-London: University of Chicago Press [French Original 1995], pp. 11-12.

16. Vendra, M. (2024). Phenomenological Foundations of Ecological Responsibility. From Embodiment to Environmental Resilience with Paul Ricœur. In: Ostium, vol. 20, 2024, no. 1.

FEATURES OF LITERARY TRANSLATION

Violetta Myrhorod

Lecturer, Kharkiv National Automobile and Highway University, Ukraine
e-mail: myrhorod@khadi.kharkov.ua, orcid.org/0000-0001-8742-1892

Summary

The aim of this paper is to determine the phenomenon of artistic translation.

In modern philological science, there are various directions of studying the speech characteristics of characters as the primary component of a character's image in a literary work. Contemporary literary studies consider the speech characteristics of characters as one of the aspects of creating characters in literary texts of different genres. In linguistics, the subject of study is based on the material of oral speech and texts that present general, typological, and specific features of communication, as well as the specifics of the language of different social groups.

Recently, there has been a growing interest in issues related to reproducing characters' speech characteristics in literary translations. The need for further study of the features of creating speech characteristics and their adequate transfer to the target language underscores the relevance of this research. The results of the analysis shed light on the most common types of translation transformations for conveying speech characteristics, allowing conclusions to be drawn regarding the norms of the target culture.

Key words: translation, artistic translation, target language, translation transformations, speech characteristics.

1. Introduction

The main goal of a translator is to create an adequate translation that conveys the content and form of the original text through another language *(Balakhtar, Balakhtar, 2011)*. To achieve the best result, the translator must skillfully and accurately choose equivalents in the target language. This can undoubtedly pose certain challenges, as some words in English are polysemous, and the literary style does not always allow for any dictionary equivalent. The challenges become even greater when the translator needs to reproduce emotionally colored vocabulary, as the use of such words is one of the most common ways to express characters' traits and the author's attitude toward them *(Catford, 1965)*.

2. The phenomenon of artistic translation

It is crucial to understand that one of the defining features of literary style is that all linguistic devices in such a text are devoted to creating an artistic image *(Lozovyi, 2003)*. Imagery is the foundation of a literary text, and each specific means of expressing it distinguishes one text from another. Therefore, it is essential to remember that the key task is not only to convey the main idea and intent of the author but also to preserve all grammatical forms that carry expressive weight and contribute to the text's uniqueness.

Literary translation is, in fact, an art form that combines reproducing the original with creating a new work in another language *(Belova, 2002)*. Key aspects highlighting the importance and complexity of literary translation include:

Firstly, relative independence, as the translation should be perceived as a standalone work rather than a mere copy of the original. The translator must preserve the spirit and style of the original but also have the freedom to convey it in the new language.

Secondly, linguistic and cultural differences, as different cultures have unique values, norms, and worldviews. The translator must be sensitive to these differences and consider them to make the translation understandable and in line with the target audience's mentality. Language differences also mean that each language has unique grammatical and lexical characteristics. Some expressions or ideas are easier or harder to convey in another language, which can affect the translation.

Thirdly, the translator's individuality is also important. Each translator has a unique style and worldview that are reflected in their choice of words, phrases, and rhythm in the translation. The personal style of the translator can significantly influence how the target audience perceives the text.

Fourthly, translations across languages and time periods: various translations of the same work may differ in their perception of the original and the choices made by translators. The history of translation can also impact the reception of the work in different cultures *(Shevtsova, 2012)*.

In conclusion, literary translation is a complex and artistic process that requires a deep understanding of both the original text and the target language. Each translation is a unique work influenced by the translator's personality, cultural context, and the characteristics of the target language.

There are two main approaches to translation: direct (literal) and indirect. Each of these approaches has its advantages and limitations, and the choice between them depends on the specific context and purpose of the translation.

Direct translation is used when it is possible to convey the meaning and structure of the original text literally, without significant changes. This approach is particularly effective when the two languages have similar grammar and structure and when it is important to maintain accuracy in information.

The methods of direct translation include borrowing, calque (literal translation), and transposition *(Savory, 1968)*.

One of the main methods of direct translation is borrowing. Borrowings help the translator convey not only the meaning of a lexical unit but also its stylistic effect, local color, and the atmosphere of the original. They are particularly useful for conveying specific terms, artistic images, or cultural nuances that may be challenging to render by other means.

However, it is essential to exercise caution and consider the context and audience of the translation. Borrowings can be effective, but their use also carries the risk of "false friends," where a word in the other language has a different meaning or association. Therefore, the translator must carefully study the context and ensure that the chosen word reflects the intent and style of the original *(Alikberov, 2000)*. Borrowings are indeed an important tool in translation, especially when cultures have active linguistic and cultural exchanges. They reflect the interaction between different cultures and communities and contribute to the enrichment of languages and cultures.

Calquing refers to the process of literally conveying the syntactic or lexical structure of the original text using linguistic means of the target language. This may involve word-for-word translation of phrases, expressions, or even structural constructions from the original.

Regarding older, established calques, which may undergo semantic evolution and become "false friends," this is indeed a significant issue in translation. Since the meanings of words and expressions can change over time, translators need to be aware of this and use translation approaches that account for the current meaning of words and expressions *(Dyka, 2017)*.

Creating new calques or using word formation based on calquing are effective ways to avoid borrowing and retain the accuracy and effect of the original in translation, particularly when there are structural or semantic differences between languages. Such approaches can help adapt the text better to the target language and its audience.

It is also worth noting that French scholars Jean Darbelnet and Jean-Paul Vinay, in their 1958 work *Comparative Stylistics of French and English*, put forth the idea that both calquing and literal translation are used in direct translation *(Savory, 1968)*.

However, Ukrainian linguists, particularly V.I. Karaban, following more recent linguistic trends, do not distinguish between the concepts of "calquing" and "literal translation."

As for literal translation, it is used when it is essential to preserve the core meaning and structure of the original text rather than stylistic features. However, literal translation can be limited in situations where:

1. The translated message conveys a different meaning or has stylistic features that are important for preserving the atmosphere or effect of the original.

2. The translated message makes no sense in the context of the target language or is structurally incorrect.

3. In the target language's metalanguage, there is no equivalent for some lexical units or constructions from the source language *(Dyka, 2017)*.

Indirect translation is used when it is impossible or inappropriate to adhere strictly to literalness, for example, due to cultural, stylistic, or semantic differences between languages. In such cases, the translator must use analogous or equivalent means in the target language to convey the meaning and effect of the original *(Vinay, Darbelnet, 1995)*. A significant feature of indirect translation is the preservation of the original's effect, even at the expense of changes in the form or structure of the text. This approach is especially useful when there are linguistic or cultural barriers that complicate direct translation.

Indirect translation employs various types of translation transformations. Let's examine these in detail.

3. The main types of translation transformations

Transformation is an essential component of the translation process. It involves changes to formal (lexical or grammatical transformations) or semantic (semantic transformations) components of the source text while preserving the intended information to be conveyed *(Karaban, 2001)*.

Translation transformations are techniques applied when there are no direct equivalents for the linguistic means used in the original text in the target language, or when such means cannot be used for various reasons.

Depending on the nature of the linguistic units in the original language and their transformations, translation transformations used in text translation can be categorized into several groups:

1. Lexical transformations pertain to words or lexical units in the original language. They include:

– transcription and transliteration, where the translator may use phonetic or letter representations of words or names.

– lexical-semantic substitutions, which change the semantics of a word or phrase, including specification, generalization, modulation, etc.

2. Grammatical transformations affect the grammatical structure of sentences and phrases. They include:

– sentence division, which involves breaking complex sentences into smaller ones for better understanding.

– combining simple sentences into complex ones or changing the structure of sentences.

– grammatical substitutions, which refer to changes in grammatical structures to achieve adequacy in the target language *(Karaban, 2001)*.

3. Lexico-grammatical transformations combine both lexical and grammatical aspects of the original text. They may involve both types of transformations and transitions from lexical units to grammatical ones and vice versa.

These transformations help translators create an adequate and comprehensible translation, even when verbal equivalents are absent or unsuitable in a specific context of the target language.

In particular, modulation is an important method in translation that allows for varying the message to preserve the spirit and stylistic features of the target language. This method is especially useful when a literal or transposed translation may be grammatically correct but does not reflect the structure or stylistic nuances of the target language.

There are two types of modulation:

Free modulation – this involves changing the message in the translation, which can occur at any time and under any circumstances. The translator can use it to achieve the desired stylistic or semantic effect in the target text.

Fixed modulation – this occurs when the change in the translation becomes established and is recorded in dictionaries or becomes a subject of teaching. In this case, modulation becomes a standard of the target language and is used as a normative way of expression.

The transformation of free modulation into fixed modulation can happen when it becomes widely accepted and frequently used in speech. Fixed modulation can reflect the evolution of the language and become an important part of communication *(Karaban, 2001)*.

Transposition involves shifting a word or phrase from one part of speech to another or using one part of speech in the function of another. Transposition can be useful for achieving specific goals of the original text or for preserving stylistic or linguistic features of the original *(Karaban, 2001)*.

Transposition in translation can be either mandatory or optional.

Mandatory transposition is used when the source text has a construction or form that is unsuitable for the target language, and the translator must transform it into a more acceptable or understandable structure.

Optional transposition is used when the translator has the option to change the structure or form of the original text, but it is not obligatory. In this case, the translator can choose between different translation methods, depending on the context, style, and purpose of the translation.

It is also important to note that transposition can include the rearrangement of elements within a phrase, where the order of words or elements is changed to achieve a certain effect in the translation *(Karaban, 2001)*.

Lexical equivalents refer to situations where two texts describe the same situation or idea but use different stylistic and structural means to express that idea *(Karaban, 2003)*.

A lexical equivalent is a linguistic unit that is functionally equivalent to another linguistic unit, or a combination of words that perform the syntactic role of other words in a sentence *(Karaban, 2001)*.

Lexical equivalents are often used in the translation of fixed expressions, idioms, proverbs, and other structures that have a fixed form and specific meaning. By knowing the corresponding expressions in both languages, the translator can provide an accurate and effective translation that reflects the idea or situation, taking into account linguistic and cultural differences *(Karaban, 2001)*.

In cases where the target language lacks precise lexical equivalents for certain situations or concepts present in the source text, adaptation is used. Adaptation involves creating a text that should be understandable and acceptable to the target language audience, even if it requires changing or adapting certain aspects of the original text *(Dyka, 2017)*.

Linguistic-ethnic adaptation is particularly important when the text is aimed at an audience that has limited knowledge of the language or specific features in understanding certain concepts. Adapting texts for children, non-specialists, or other specific audiences may involve using simplified language, explanatory comments, and illustrations to ensure clarity and ease of understanding. It is essential to remember that adaptation does not always mean losing the essence or structure of the original text. It can be carried out in such a way as to preserve the main idea and integrate it into the context of the target language and the audience for which the translation is intended *(Ovcharenko, 2022)*.

Thus, the choice of translation method depends on the specific text, its purpose, audience, and structure. To achieve an accurate and effective translation, the translator must choose translation approaches that best suit the specifics of the text at hand.

4. Conclusions

Translation of artistic literature is quite challenging, and the use of social dialects presents even more complex tasks for the translator, as the primary goal of artistic translation is to achieve maximum adequacy. To create an adequate translation, the translator selects from a wide range of translation methods or employs translational transformations.

The choice of translation method depends on the specific text, its purpose, audience, and structure. To achieve an accurate and effective translation, the translator must choose translation approaches that best match the specifics of the text in question.

References

1. Alikberov V. I. (2000). Sleng ta pereklad [Slang and Translation]. Kyiv: Lileia. [in Ukrainian]
2. Balakhtar V. V., Balakhtar K. S. (2011). Adekvatnist ta ekvivalentnist perekladu [Adequacy and equivalence of translation]. Ukraine. [in Ukrainian]
3. Belova A. D.(2002). Ponyattia "stil," "zhanr," "dyskurs" u anhliiskii linhvistytsi. [The concepts of "style," "genre," "discourse" in English linguistics]. Kyiv: Inozemna Filolohiia. [in Ukrainian]
4. Catford J. C . (1965). A Linguistic Theory of Translation. London.
5. Dyka N. M. (2017). Movna osobystist: mizhdysplinarnyy aspekt. [Linguistic personality: an interdisciplinary aspect]. Kyiv: Pedahohichna osvita: teoryia i praktyka. [in Ukrainian]
6. Karaban V. I. (2001). Pereklad anhliys'koyi naukovoyi i tekhnichnoyi literatury. Ch. 2. Leksychni, terminolohichni ta zhanrovo-stylistychni trudnoshchi.[Translation of English

scientific and technical literature. part 2. lexical, terminological, and genre-stylistic difficulties]. [in Ukrainian]

7. Karaban V. I. (2001). Teoriia i praktyka perekladu z ukrains'koi movy na anhliis'ku. [ukr./angl.]: navch. posib. dlia VNZ. [Theory and Practice of Translation from Ukrainian into English. [Ukr./Eng.]: textbook for higher education institutions]. Vinnytsia: Nova Knyha. [in Ukrainian]

8. Lozovyi V. O. (2003). Estetyka: navch. posib. [Aestetics]. Kyiv: Yurinkom Inter.

9. Ovcharenko L. M. (2022). Etnokul'turnyi skladnyk linhvoetnichnoho bariieru i yoho vrahuvannia u protsesi perekladu. [Ethnocultural Component of the Linguoethnic Barrier and Its Consideration in the Translation Process]. Uzhhorod: Zakarpatski filolohichni studii. [in Ukrainian]

10. Shevtsova O. V. (2012). Spivvidnoshennia perekladoznavchykh fenomeniv «adekvatnist» ta «ekvivalentnist». [The correlation of translation studies phenomena "adequacy" and "equivalence."]. Kyiv : KNU im. T. Shevchenka. [in Ukrainian]

11. Savory T. (1968). The Art of Translation. Boston: The Writers, Inc..

12. Vinay J.-P. and Darbelnet J. (1995). Comparative Stylistics of French and English / Translated by C. Sager and M. J. Hamel. Amsterdam : John Benjamins,.

A PILGRIMAGE COMMUNICATION PERSPECTIVE ON THE SACRED WAYS OF ST. MARY MAGDALENE

Svitlana Panchenko

Ph.D. in Cultural Studies, Associate Professor, Doctoral Student, Institute of Journalism
of Taras Shevchenko National University of Kyiv, Ukraine
e-mail: dolga100@ukr.net, orcid.org/0000-0001-8010-8318

Summary

The purpose of this paper is to examine the meaning and prospects of pilgrimage communication on the example of the sacred paths of St Mary Magdalene. To recreate the saint's pilgrimage routes from the physical path to virtual travel, and to find out the significance of Mary Magdalene's figure in art through virtual pilgrimage. In the author's opinion, pilgrimage as a social and communicative institution has a communicative perspective in the dichotomy of «self-Other», so it inspired the author to work and move along sacred paths in this direction. The communicative method focused on intercultural communication between pilgrims during their journeys to the relics of the saint, and intercultural communication is also traced in the planning of such sacred journeys through the media and the Internet. The tourismological method allowed us to consider and analyse the established 222 km long route in 10 stages, which shows pilgrims the spiritual significance and necessity of such routes in relation to other saints. The cultural method made it possible to analyse the figure of St Mary Magdalene through such a powerful cultural tool as art, immersing us in biblical stories through paintings and conveying the emotions of the saint through the atmosphere and images that transported us to the time of the birth of Christianity thanks to painting. Using the religious studies method, the authors examined the significance of St Mary Magdalene for pilgrims after her death, namely the pilgrimage routes to the saint's relics through elaborate sacred routes

Key words: St Mary Magdalene, pilgrimage routes, shrines, communication links, virtual pilgrimage, the socio-cultural space.

1. Introduction

Pilgrimages to the shrines of Mary Magdalene are quite common in the world and are of great communication interest to pilgrims. The image of Mary Magdalene is represented in the socio-cultural space. Therefore, the interest in this biblical figure is quite high. Let's try to make a virtual journey through the pilgrimage sites of St Mary Magdalene, as well as to consider the socio-cultural spheres in which the saint is most reflected. In the article, the author analyses the significance of pilgrimage shrines dedicated to Mary Magdalene from the point of view of the Christian tradition and, at the same time, the transformation of pilgrimage routes according to the requirements of the times. It is necessary to consider the most visited pilgrimage shrines in the world and analyse the paths leading to them as a symbol of free and tolerant communication between pilgrims. The article examines the Provence-Alpes-Côte d'Azur pilgrimage route as a combined hike-pilgrimage in the footsteps of St Mary Magdalene, which runs from Les SaintesMaries-de-la-Mer to Saint Maximin. The 222-kilometre

route in 10 stages reveals the main Christian sites and sacred monuments, as well as the exceptional landscapes that the Saint crossed during her biblical journey through Provence. We propose to consider these ten stages of the journey, as well as to analyse the significance of the spiritual image of Mary Magdalene in various spheres of culture and art, which will allow us to understand the importance of biblical images and saints in today's transformed world in terms of the communication component.

Mary Magdalene travelled with Jesus and was one of his closest followers, and she witnessed his crucifixion and burial. She was the first to see the resurrection of Jesus. Mary Magdalene is mentioned by name twelve times in the canonical Gospels, more than the other apostles and more than any other single woman in the Gospels. A serious of studies rethink basic approaches to pilgrimage traditions in Western tradition *(Bailey, 2023; Raj, Griffin, 2015a, 2015b).*

Mary Magdalene's surname comes from the name of the town of Magdala, a fishing village on the Sea of Galilee. Mary Magdalene was one of the women who travelled with Jesus and helped support his ministry «out of her own resources», which indicates that she was probably a relatively well-to-do woman, a point that has been much debated in theological circles *(Ristine 2013).*

Mary Magdalene is a central figure in later Gnostic Christian writings, including the Gospel of Mary, which many scholars attribute to Mary Magdalene. These texts portray Mary Magdalene as an apostle (Apostle (*Greek: ἀπόστολος from ἀποστέλλω – to send*) – *a messenger*), as Jesus' closest and most beloved disciple and the only one who truly understood his teachings (http://blyzhchedoboga.com.ua).

The inaccurate portrayal of Mary Magdalene as a harlot began after a series of sermons delivered in 581 AD. Pope Gregory I-st identified Mary Magdalene with Mary of Bethany and the unnamed 'sinful woman' who anoints Jesus' feet, in the Gospel of Luke. This false portrayal of Mary Magdalene caused considerable controversy in the years leading up to the Reformation, and some Protestant leaders rejected it.

Sophisticated Western Europe medieval legends describe the wealth and beauty of Mary Magdalene and her supposed voyage to the Gallo-Roman port centre of Marseille, in modern southern France. During the Counter-Reformation, the Catholic Church continued to use Mary Magdalene as a symbol of repentance. However, in 1969, Pope Paul VI removed the false image of Mary Magdalene from the general Roman calendar.

Nevertheless, the misconception of Mary Magdalene as a former harlot has been promoted by the Catholic Church for almost 1400 years and has survived in popular culture. Mary Magdalene is considered a saint by the Catholic, Orthodox, Anglican and Lutheran churches. Some other Protestant churches honour her as a heroine of the faith (https://joyofmuseums.com/museums/-).

The figure of St Mary Magdalene is mentioned in all four Gospels: Matthew, Mark, Luke, and John. This demonstrates the importance of this figure in biblical stories and legends. Therefore, we consider it necessary to recall how this saint appears in the Gospels of the New Testament. In the Gospel of Matthew, Mary Magdalene is mentioned as follows: «There were also many women who were watching from a distance, and who had come from Galilee to follow Jesus and serve him. Among them was Mary Magdalene, and Mary the mother of James and Joseph, and the mother of the sons of Zebedee. And Mary Magdalene and another Mary were there, sitting opposite the tomb *(Matthew 26:13).* And on the next day, which was Friday, the chief priests and Pharisees came to Pilate and said: «Sir, we have remembered that this deceiver, while he was still alive, said, 'I will rise again in three days'. Now it came to

pass on the Sabbath, at the dawn of the first day of the week, that Mary Magdalene and another Mary came to see the tomb. And behold, there was a great earthquake, for an Angel of the Lord came down from heaven, and coming down, rolled away the stone from the tomb and sat on it. His form was like lightning, and his clothes were white as snow» *(Mathew, 27:56, 61; Mathew, 28:1-3).*

In the Gospel of Mark, the figure of Saint Mary is mentioned as follows: «There were women watching from a distance, among them Mary Magdalene, and Mary the mother of James the younger, and mother of Joses, and Salome, who, as He was in Galilee, followed him and ministered to him, and many others who had come with him to Jerusalem. And Mary Magdalene and Mary of Josiah were watching where He was laid. When the Sabbath was over, Mary Magdalene and Mary of James and Salome bought some spices to go and anoint Jesus. And very early, on the first day after the Sabbath, they came to the tomb as soon as the sun was up, and said to themselves, «Who will roll away the stone from the door of the tomb? But Jesus, having risen early on the first day of the week, appeared first to Mary Magdalene, from whom he had cast out seven demons. She went and told those who were with Him, who were weeping and wailing» *(Mark, 15:40-41,47; Mark, 16:1-3;9-11).*

The Gospel of Luke mentions Mary Magdalene as follows: «And it came to pass after these things, that He went about the cities and villages, preaching and announcing the kingdom of God, and the twelve with Him, and some women whom he had healed of evil spirits and of diseases: Mary, called Magdalene, out of whom seven demons had gone out; and Johanna, the wife of Chuza, Herod's governor; and Susanna, and many others who served him for their own good. And when they came back from the tomb, they told the eleven and all the others about all these things. These were Magdalene, Mary, and Johanna, and Mary of James, and others with them, who told the apostles of these things. And their words seemed to them to be lying, and they did not believe them. But Peter arose and ran to the tomb, and stooping down, saw only the cloths lying there, and went to his room, wondering what had happened» *(Luke, 8:13; Luke, 24: 9-12).*

The Gospel of John mentions Mary Magdalene as follows: «Now Jesus' mother and his mother's sister, Mary of Cleopas, and Mary Magdalene, were standing by the cross. Jesus, seeing his mother and the disciple standing there, whom He loved, said to his mother: Woman, behold, this is your son. Then he said to the disciple, «This is your mother. And from that time the disciple took her to himself. On the first day of the week Mary Magdalene came early, while it was still dark, to the tomb and saw that the stone had been rolled away from the tomb. She ran and came to Simon Peter and the other disciple whom Jesus loved, and said to them, «They have taken the Lord from the tomb, and we do not know where they have laid him. Mary Magdalene came to tell the disciples that she had seen the Lord and that He had told her these things. And when it was evening on that day, the first of the week, and the doors where the disciples were assembled were locked for fear of the Jews, Jesus came and stood in the midst, and said to them, «Peace be with you.» And when he had said this, he showed them his hands and feet and his ribs. Then the disciples rejoiced when they saw the Lord» *(John, 19:25-27; 20:1-2; 18-20).*

2. The image of St Mary Magdalene in the Holy Gospels

All of the Gospel writers agree that Mary Magdalene was the first to learn of the Resurrection of Christ and it was she who brought the Good News to the disciples. According to Bernardo Estrada, professor from Rome: «This is the only woman whose name appears

in all four Gospels, the Apostle John mentions the Virgin Mary as the Mother of Christ, but does not call her by name, while Mary Magdalene is called in full. Her key role is that she was the first eyewitness of the Resurrection and the first to tell the disciples about it *(Clark, et al., 1998: 169-190)*.

Mary became a favourite saint of the Middle Ages, her life became a bestseller, and she is also the patron saint of gardening and gardeners. She is depicted in a famous painting by Titian, El Greco depicted Mary as a repentant woman looking up into the sky. According to the legend, she travelled from Jerusalem to pagan Rome, and when many people did not believe in the Resurrection of the Lord, she said: «I have seen the Lord, He has spoken to me». With this sermon, she travelled all over Italy, and according to legend and tradition, she reached the Roman Emperor Tiberius.

Mary continued her preaching in Rome until the arrival of the Apostle Paul and for two years after his departure. The Apostle Paul mentions Mary in his Letter to the Romans that she was a person who laboured hard for us. Historians say that later Mary settled in Ephesus, where the Virgin Mary and John the Theologian lived, and where she died.

It was from Ephesus that the veneration of Mary began on 22 July according to the Julian calendar, the feast of Mary Magdalene. Until the sixth century, Christians came to the Tomb of Mary. According to Sergei Nikishin, Archpriest from Paris: «In the East, they say she was in Ephesus, and in the West, they said she was in the South of France.» In 869, the Byzantine Emperor Leo the Philosopher ordered the transfer of the imperishable relics of St Mary Magdalene from Ephesus to Constantinople, to the Church of St Lazarus. It is believed that during the Crusades they were transported to Rome, where they were kept in the church of St John Lateran. Later, the church was consecrated in the name of St Mary Magdalene.

According to the Latin version, during the persecution of Christians, Mary Magdalene, Martha, and their brother Lazarus, fleeing persecution, reached the south of France, Provence, where they were thrown ashore at the mouth of the Rhone, near Arles, in a town now called Les Saintes-Maries-de-la-Mer. Pilgrimage versions of this fact are divided *(Mykytka, 2018)*.

The relics of St Mary are kept near Marseille, and the French believe that it was Mary who led their nation to Christianity. Weddings take place in the Saint-Madeline Church (Paris), where she is the patron saint of marriages. This temple was built on the site where she was worshipped in the XII century. In Provence, in the mountains of Mustier-Saint-Marie, pilgrims from all over the world visit the grotto where the saint hid from the world and prayed *(Doll, 2006: 305-406)*.

Mary Magdalene went to preach in Marseilles. To confirm this version, the Cluny Museum has a 15th-century painting attributed to King René of Provence (he is generally credited with many paintings), 'St Mary Magdalene Preaching the Word of God in Marseilles'.

Then Mary settled in a «grotto of solitude» among the rocky cliffs near the village of SaintBaume. Here she preached the teachings of Jesus Christ, and died. Nowadays, the Grotto of Mary Magdalene on the territory of the Dominican monastery attracts many pilgrims *(CollinsKreiner, 2018: 8-17)*.

In the middle of the 13th century, Dominican monks discovered the relics of Mary Magdalene in an old crypt in the town of Saint-Maxime-la-Saint-Beauce. The relics were recognized as genuine by the miracles that emanated from them. Already in 1297, a majestic basilica in honor of the saint was built here. The relics were transferred to a richly decorated casket. But it was these riches that were encroached upon during the French Revolution. The tomb was looted. Today, the head of Mary Magdalene is kept in the lower crypt.

In honour of Saint Mary Magdalene, revered as an educator of Gaul and Franconia, many churches and chapels were built in various regions of southern France in the early Middle Ages. The majestic basilica, founded in 1096 in Veselas, is also remembered for the call of Abbot Bernard of Clairvaux to the Second Crusade. It was here in 1146 that he called on King Louis VII, Queen Eleanor of Aquitaine, knights and people to march to the East to protect Christian relics.

The cult of Mary Magdalene was especially widespread in the town of Rennes-lesCha-teaux in the province of Languedoc, where a large church built in her honour was decorated with magnificent frescoes of the saint's life.

3. In the footsteps of St Mary Magdalene (French pilgrimage route)

Stage 1. From Les Saintes-Maries-de-la-Mer to Salin-de-Giraud

«Truly I tell you, wherever this gospel is preached throughout the world, what she has done will also be told, in memory of her» *(Matthew 26:13).*

Pilgrims wishing to follow the paths of the Camargue will be delighted with the 222-kilo-metre route, which follows the route of the Sainte-Marie-Madeleine. This first stage takes place in the heart of the Camargue Regional Nature Park, between ponds and other wetlands *(Brock, 2002: 43-52).*

Route.

Length: 30.4 km

Ascent: 45 m – Descent: 45 м Passage time: 7 hrs. 30 min.

Difficulty level: not too difficult

Route: landscape and terrain

You will be walking on relatively easy terrain, on pleasant green paths. You will start from Les Saintes-Maries-de-la-Mer and walk along ponds, marshes and lagoons. You'll pass the *Etang de Bataille* before reaching the path that forms the boundary between the *Etangs du Fangasse* and *Galabert*. There are many opportunities to observe the flora and fauna of the Camargue at its best. You'll stop in *Salin-de-Giraud*, a village near *Arles* famous for its salt. If you want to shorten this stage, you can choose an alternative route that will allow you to relax in one of the farmhouses located northeast of *Etang du Fangassier*.

Must-see sights to visit

Before leaving *Les Saintes-Maries-de-la-Mer*, visit the church of *Notre-Dame-de-la-Mer*. This fortified Romanesque building dates back to the 10th century and houses the relics of Marie Jacobé, Marie Salomé and Marie Sara in the crypt. Many pilgrims stop here. After immersing yourself in the history of *Sainte-Marie-Madeleine*, take the opportunity to visit the *Salin de Giraud* salt mine. Salt is collected and stored here all year round, forming amazing mounds (In the Footsteps:st.1). A bike ride will take you on a fascinating journey through the heart of the Camargue Regional Nature Park. Colourful landscapes form a unique patchwork and wildlife is abundant. You can follow the pink flamingos that nest in the area.

Stage 2. From Salin-de-Giraud to Fos-sur-Mer

«As she stood behind him at his feet weeping, she began to wet his feet with her tears. Then she wiped them with her hair, kissed them and poured perfume on them» *(Luke 7:38).*

After travelling through the salt marshes, you will leave Camargue to meet new horizons in the footsteps of St Mary Magdalene. This stage, alternating between land and water, crosses the beautiful *Port Saint Louis du Rhône*.

Route.

Stage length: 10.6 km

Duration: 3 hrs. 00 mins.

Ascent: 24 m – Descent: 39 м

Difficulty level: easy

Route: landscape and relief

Leave Salin de Giraud and head for the Bac de Barcarin ferry. The crossing takes 5 minutes and makes this stage feel like an amazing adventure. When you reach *Port Saint Louis du Rhône* and its famous *Tour Saint-Louis* tower overlooking the Rhône, walk along the river and then take a bus (lines 1 or 2) to Fos-sur-Mer (bus stop Douane in Port Saint Louis du Rhône and Vallins in Fos-sur-Mer). Today's route ends at the Etang de l'Estomac in Fos-sur-Mer.

Must-see sights to visit

If you love all things curious, don't miss a visit to the Tour Saint-Louis Tower in *Port Saint Louis du Rhône*. This tower houses a fascinating ornithological collection and also hosts temporary exhibitions. If you prefer the sea, then during the Camargue tour you will definitely want to relax on the city's three beaches, especially on the main one – Place Napoleon: Place Napoleon is decorated with 10 km of golden sands. (In the Footsteps:st.2). Stop to admire the kite surfers riding the rough waves and watch the mouth of the Grand Rhône river. Fishermen, shellfish farmers and other mariners are also an integral part of this wild world.

Stage 3. From Fos-sur-Mer to Martigues

«Therefore, I tell you, her many sins have been forgiven – as her great love has shown. But whoever has been forgiven little loves little» *(Luke 7:47).*

A new stage of the route dedicated to St Mary Magdalene takes you from Fos-sur-Mer to Martigues on the Mediterranean coast. The route passes through the Martigues region, discovering its religious heritage. Marseille is fast approaching.

Route.

Length: 24.6 km

Ascent: 460 m – Descent: 455 м Passage time: 6 hrs. 00 min.

Difficulty level: not very difficult

Route: landscape and relief

Leaving *Fos*, you pass ponds, the Castillon National Forest and the Pourra Regional Nature Reserve. After the church of Saint-Maitre-le-Rempard and the Cadéraou balcony, you will reach the shore of the Etang de Berre. Take a walk along the Figueroa beach. Then you take a bus along the coast, cross the Caronte Canal and reach the heart of Martigues, a city built on the sea.

Must-see sights

After the natural landscapes, Martigues boasts a rich religious heritage that invites you to visit or pray. Take a stroll through the Provencal town and stop by the Eglise Sainte MarieMadeleine church. Located in the Île district, this building was erected in 1680 and boasts a magnificent two-storey facade. The sculptural decoration of the Virgin and Child deserves special attention. The *Chapelle Notre-Dame-des-Marins* (Our Lady of the Sailors Chapel), dedicated to sailors, has an *ex-voto* offering (an Italian word for an object offered as a gift to a deity (in Christian times, to God, Virgin Mary, saint) for grace received or a vow fulfilled) and a magnificent silver Madonna (In the Footsteps: st.3).

Stage 4. From Martigues to Carry-le-Rouet

«The Twelve were with him, and also some women who had been cured of evil spirits and diseases: Mary (called Magdalene) from whom seven demons had come out» *(Luke 8:2)*.

Your journey in the footsteps of St Mary Magdalene continues on Mediterranean soil. A large part of the route runs along wild coastlines, buried in camouflage of exceptional colours against the turquoise blue waters. Welcome to an invigorating breath of sea air.

Route

Length: 27.6 km

Ascent: 630 m – Descent: 643 m Duration: 9 hrs. 00 min.

Difficulty level: not too difficult

Must-see sights

After discovering Martigue and its treasures on the St Mary Magdalene Trail, you cross the country's interior to reach the sea. You'll pass through the *Wallonne du Mistral* before reaching the *Path of the Guides*. Be prepared for a steep climb. After you pass the Chapel of St Croix, you will have uninterrupted views of the seafront. Continue along the Côte d'Azur to the charming port of *Sausset-les-Pins*. One last push and you will arrive in *Carry-le-Rouet* on the Cap Rousset beach. In La Gatasse, if you want to increase your time on the coast, you can choose an alternative route that will take you past the military remains, Bonnier Bay, Pointe de Carreau, Cape Couronne and St Croix beach *(Vidal-González, 2023)*.

Must-see attractions

Treat yourself to a well-deserved dip in the sea by crossing the *Plage de Sainte-Croix de Martigues*, crowned by the chapel of the same name. The water here is crystal clear, and the beach is hidden in a cosy little bay. There is plenty to do in Carri-le-Rouet. The *Parc Marin de la Côte Bleue* marine park offers many exciting snorkelling routes that reveal our thriving underwater plant and animal life – all you need is a mask, fins and snorkel (In the Footsteps: st.4). We love the atmosphere of these unassuming little Mediterranean ports, nestled between cliffs and bathed in pink light at sunset.

Stage 5. From Carry-le-Rouet to Marseille L'Estaque

«Martha, Martha», the Lord answered, «you are worried and upset about many things, but few things are needed − or indeed only one. Mary has chosen what is better, and it will not be taken away from her» *(Luke 10: 41-42)*.

Head out in the morning from Carry-le-Rouet to the *Chemin des Eaux Salées* (Saltwater Trail) for a rather athletic hike along the Côte d'Azur *(Botella-Carrubi, 2019)*. After the chapel, go down to the water and walk in the rhythm of the waves lapping at the shore. A little further on, you will reach the Calanques du Puy trail and then the Redonna trail. The sea air offers a pleasant coolness. After Port-de-Grand-Méjean, the trail heads uphill and adjoins the *Calanques de Niolon fjord*. At Grand-Méjean, you can choose an alternative route that takes you through the hinterland of Ensues-la-Redonnaise, the plain of Souy and the plateau du Medecin. Take in the magnificent views of the Bay of Marseille and the Friulian Islands. Next on your route are the Collet de Figueroa and the Vallon de l'Establon, before crossing the Plage de Corbières beach and arriving in Marseille's Estac quarter.

Route.

Length: 20 km

Ascent: 1034 m – Descent: 1021 м Duration: 7 hours.

Difficulty level: quite difficult

Must-see sights

The first thing that will interest you is the *Chapelle du Rouet*. Located on the cape of Cap de la Vieille, this 17th-century chapel is guarded by a statue of the Virgin Mary breastfeeding a

baby. After the Second World War, the chapel almost fell into ruins, but was saved by dedicated locals who worked tirelessly to restore this priceless little piece of heritage. A few kilometres further on, the Calank des Aux Salets fjord resembles a wild and unspoilt paradise (In the Footsteps: st.5). Take the time to admire the beautiful views and relax a little... You'll also notice a viaduct (an architectural monument) crossing the landscape. When you arrive in Marseille, the *Plage de Corbières* beach offers the perfect place to unwind after a long day on the coastal footpaths.

Stage 6. From Marseille L'Estaque to Marseille City Centre (Saint-Victor)

«When Mary reached the place where Jesus was and saw him, she fell at his feet and said, «Lord, if you had been here, my brother would not have died» *(John 11: 32).*

You start from l'Estaque and its charming little port. This Marseille hike starts at the Marseille Provence Métropole. Then you follow the path from Saint-Antoine to Saint-Joseph. You will then pass the Saint-Madeline fountain and one of Marseille's Catholic churches, Notre Dame du Mont Carmel in Les Aigalades. The sea appears at the side of the road, and then you set off to explore the city, passing the Cathédrale de la Major. Climb Mount des Accoules and walk around the Old Port before reaching Saint-Victor and its abbey *(The International Journal: 2022).*

Route

Length: 20 km

Ascent: 469 m – Descent: 483 м Duration: 5 hours.

Difficulty level: not too difficult

Must-see sights

You will have a magnificent panoramic view of the Grotte Hermitage Aigalades, the place where, according to legend, Mary Magdalene took refuge with her relatives. A visit to Marseille by way of Mary Magdalene will lead you to the Abbey of Saint Victor. The altar dedicated to the saint is located in a crypt carved in the rock (In the Footsteps:st.6). This exceptional place invites prayer and contemplation.

Stage 7. From Marseille City Centre to Marseille La Barasse

«Then Mary took about a pint of pure nard, an expensive perfume; she poured it on Jesus' feet and wiped his feet with her hair. And the house was filled with the fragrance of the perfume» *(John 12:3).*

A 100% stopover in Fosse. Your footsteps will take you through the colourful, lively neighbourhoods of this Provencal town, where the sea air dries the laundry on the windows.

Enjoy a wonderful day in the footsteps of Mary Magdalene.

Route.

Length: 16.5 km

Ascent: 339 m – Descent: 384 м Passage time: 4 hours.

Difficulty level: fairly easy

In recent study *(Judák, 2022)* has described the first place to visit as the famous "good mother": *the Basilica of Notre-Dame de la Garde*. A monumental cathedral that dominates the city and offers a breath-taking panorama of the sea and surrounding mountains. The popular and colourful Noailles district has a large daily market and boutiques. This lively, multicultural neighbourhood consists of numerous narrow streets and Ottoman-style buildings. At the north-eastern end of Canebius, the *Eglise des Réformés*, a building as tall as Notre Dame de Paris, stands in all its splendour and whiteness. Finally, the *Chapel of Notre Dame de Nazareth* invites you to meditation and prayer. Go to the choir to admire the gilded wooden statue of the Virgin Mary from the 17th century.

You will start this tour in the heart of Marseille. After Saint-Victor Abbey, climb the stairs to Pierre Puiget's garden and walk up *rue Canebier* to the church of *Sainte-Marie-Madeleine des Chartreux* (In the Footsteps:st.7). You'll pass through the Blancard district and bypass the Saint-Pierre cemetery. In Saint-Loup, you'll cross the Yuvon River to get to Valbarel. Then you'll follow steep paths and passages to Saint-Cyr Park and the Notre Dame de Nazareth Chapel. Follow the Pic Foch trail to the Barasses district.

Stage 8. From Marseille La Barasse to Gémenos

«Near the cross of Jesus stood his mother, his mother's sister, Mary the wife of Clopas, and Mary Magdalene» *(John 19:25).*

On the previous stage of your journey, you explored Marseille. Now you'll leave the city and travel through the landscapes so dear to Marcel Pagnol, between the Garlaban and Sainte-Baume hills, full of the timeless charm of the deepest Provence.

You depart from the Marseille district of *La Barasse*. This day of hiking in Provence will start beautifully (under sunny skies, of course). It has been noted *(Damari, 2016),* soon you will pass through La Candolle, La Mille and then the Vallon de Llouinan. From here you can enjoy a beautiful panorama of rocky massifs and the Vallon de la Barasse, where Saint Marie-Madeleine undoubtedly spent several centuries. We leave behind the chapel of Notre Dame de Nazareth. The sea is very close: try to catch a glimpse of Cap Canaille! After the Escourtin Valley, you will rejoin the *Marseille Provence Métropole* after the Escourtin Valley. After crossing the Aubagne, take the road des Petits-Mellets and the road *Chemin de Saint-Jean-deGarguier*. Then there is a direct road to Gémenos, where you will stay. If you want to walk through La Barasse, there is an alternative route from La Pennes-sur-Guevonne that will allow you to stay in an urban environment. From Saint-Jean-de-Gargier, an alternative route takes you a little slower to the Plan d'Op.

Route.

Length: 25 km

Ascent: 846 m – Descent: 915 м Passage time: 6 hrs. 15 min.

Difficulty level: fairly difficult

Surrounded by rugged landscapes, Aubagne has a charming charm that was well described by the most famous Provencal writer Marcel Pagnol. To visit Aubagne is to stroll through the narrow streets and perhaps hear the accents of the locals in the echo. Visit the SaintSauveur church, a fine example of the evolution of church art, built on the basis of a Romanesque chapel from the 12th century. Admire the 17th-century Virgin and Child and the monumental organ. The Chapelle des Pénitents Blancs, a symbol of the exponential growth of the fraternities in the 18th century, has been completely restored. Here, the local Aubagne stone has been hewn and worked in the most beautiful way. The Chapel of the Blessed completes your spiritual tour. Baroque in style, it can only be seen from the outside (In the Footsteps :st.8). The world of Pagnol and Provence can be discovered in Pagnol's Petit World, his birthplace, and in the Village des Santons.

Stage 9. From Gémenos to Plan d'Aups

He asked her, «Woman, why are you crying? Who is it you are looking for?». Thinking he was the gardener, she said, «Sir, if you have carried him away, tell me where you have put him, and I will get him». Jesus said to her, «Mary». She turned toward him and cried out in Aramaic, «Rabboni!» (which means «Teacher») *(John 20, 15-16).*

Now that you've crossed the Massif du Garlaban, you'll see another mountain range: The Massif de la Sainte-Baume. This stage promises to delight pilgrims, as it leads to a sacred place – the cave where St Mary Magdalene lived her last years as a hermit.

You set off from Gemenos on the same path as Saint Mary Magdalene. The trail passes through vegetation similar to that of the other stages, with some alpine influences in the Saint-Baume Regional Nature Park (https://provence-alpes-cotedazur.com/en -plan-daups/).

Pass by the stream du Foges and enjoy the freshness of the exceptional natural environment of the Saint-Baume massif, which is the backdrop for this hike. After crossing the Col du Fauge, you will find yourself back in the mountains. Keep the chapel of Saint-Pillon in sight, and shortly after the pass you will see the chapels of Parisienne. Beyond the Pas de la Cabrette, the grotto of St Mary Magdalene awaits you. The magnificent forest opens its arms and you arrive at the Hostellerie. The Saint-Pillon chapel offers a 360° panoramic view stretching from the Mediterranean to the Alps.

Route
Length: 19 km
Ascent: 1245 m – Descent: 717 м Duration: 6 hrs. 20 min.
Difficulty level: fairly difficult

The natural scenery along this route is rich, as is the cultural and religious heritage. Stroll through the narrow streets of Gémenos, a town full of atmosphere, with its 16th-century castle and, above all, the Abbey of Saint-Pont. The highlight of the scene is undoubtedly the grotto of Sainte-Marie-Madeleine in the Plan d'Aups forest, which has been visited by more than 40 sovereigns from Saint Louis (1254) to Louis XVI (1660), thanks to the Kings' Paths from the basilica (In the Footsteps:st.9). Catholics flock here in droves, as the saint is believed to have lived here for the last 30 years of her life. This must-see place in Vary is a natural corner and a spiritual sanctuary of great beauty.

Stage 10. From Plan d'Aups to Saint-Maximin-la-Sainte-Baume

Jesus said, «Do not hold on to me, for I have not yet ascended to the Father. Go instead to my brothers and tell them, «I am ascending to my Father and your Father, to my God and your God» *(John 20:17)*.

After yesterday's unique spiritual experience, your journey will continue in the Sainte-Baume hills. The author *(Bernstein, 2018)* has stated, that this stage will lead you to the capital of the region, Saint-Maximin-la-Sainte-Baume, and the final destination of your journey in the footsteps of Saint Mary Magdalene.

The route of this hike in the Sainte-Baume starts from the Hostellerie and soon follows the Chemin des Roys. As you make your way through the undergrowth, you will feel a pleasant coolness that will help you to exhaust yourself. A little further on, the Chemin de l'Orge gives way to the Chemin de Ménarguette. Admire the typically Mediterranean vegetation of the SaintBaume Regional Nature Park. What a great way to visit Provence! Then follow the canal to the Cauron Aqueduct. You arrive at the famous Basilica of Saint Mary Magdalene in SaintMaximin-la-Sainte-Baume.

Route.
Length: 28 km
Ascent: 1008 m – Descent: 638 m Duration: 7 hours.
Difficulty level: quite difficult

The Saint-Jaume church, founded in Plan d'Op around the fifth century, is worth a visit (In the Footsteps:st.10). It testifies to the religious past of the region. The Basilica of St Mary Magdalene in Saint-Maximin-la-Sainte-Baume, the last stop on this spiritual route, will impress you with its gigantic size: 73 metres long, 43 metres wide and 29 metres high. This monumental structure houses the relics of St Mary Magdalene, including her skull.

Photo 1. Saint-Maximin-la-Sainte-Baume basilica: Sainte-Marie-Madeleine basilica of Gothic style. Source: www.france-voyage.com/tourisml

4. The significance of the image of Saint Mary Magdalene in painting

Mary Magdalene inspired artists to create masterpieces. There are about 20 world-famous paintings by great artists of the Classicist and Renaissance periods depicting the saint. The great masters of painting dedicated their works to Magdalene, and each of them embodied something different in her image. Mary Magdalene was a favourite subject for both artists and the public, because she was an ideal model of the search for virtue and renunciation of earthly pleasures *(Phillips, 2018).* Let us consider some of them.

Photo 2. Diego Velázquez's Christ in the House of Martha and Mary, 1618. Source: muzei-mira.com/l

This religious painting depicts an episode from the Gospel of Luke, when Christ stops at the house of Martha and Mary. The painting was completed in 1618 during Velázquez's Seville period, shortly after he finished his studies with Pacheco. The painting depicts Mary listening to Christ while Martha prepares food for him. The painting encourages contemplation rather than action, suggesting that Mary represents contemplatives who worship without distraction, while Martha represents those who devote themselves to work and labour. It is noteworthy that the women are depicted as active participants in this religious scene – Marta is preparing the

food, while Maria listens attentively instead of helping her sister prepare the food. Interestingly, the woman in the foreground, who is crushing garlic in a mortar, symbolises Lent or a fasting day. Despite its mysteriousness, Christ in the House of Martha and Mary has become the subject of iconographic analysis over time. Although scholars are unable to accurately interpret its mysterious elements, such as the objects hanging on the wall or the figures depicted in the background, it still remains one of Velázquez's most beautiful paintings to survive to this day (www.artchive.com).

The maid is pounding garlic in a mortar, while other ingredients are scattered on the table: fish, eggs, red pepper and a ceramic jug, probably containing olive oil. The older woman points to the woman, as if to give her instructions or to reproach her for working too hard, or she draws our attention to the figures in the background.

The scene depicted in the upper right corner is taken from the New Testament *(Luke 10: 38-42)*. As Mary sits at the feet of Jesus listening to Him, her sister Martha complains that she should not be left alone to serve the meal. Jesus replies: "Mary has taken the good portion that should not be taken from her". We see the painting through an opening, although it could also be read as a reflection in a mirror or a painting hanging on a wall. The figures in the foreground, dressed in modern clothes, could be depicted as Martha and Mary of the last days (www.nationalgallery.org.uk).

Photo 3. El Greco, 1577. Penance of Mary Magdalene».
Source: www.wikiart.org/ru/el-greko1577

«Penance of Mary Magdalene» (www.wikiart.org/ru/el-greko1577) is a 1577 painting by El Greco depicting Mary Magdalene, created during his first period in Toledo, and shows the great influence of Titian on the artist's work at the time. It is now in the Museum of Fine Arts in Budapest. The painting depicts Mary Magdalene as a hermit in the desert, surrounded by overgrown ivy, which symbolises eternal life through penance. Her folded arms and upward-facing eyes direct the viewer's attention to heaven and salvation. El Greco drew inspiration from the Bible for this work, which depicts Mary Magdalene's repentance through her posture and facial expressions. In addition, ominous dark clouds hang over her as a reminder of God's judgement and punishment if one does not repent. A skull lies at Magdalene's feet, alluding to

mortality and symbolising the transience of human life. The dawn landscape, bathed in cold, pale moonlight tones, is a subtle echo of the radiating experience of spiritual catharsis (www. artchive.com/artwork).

**Photo 4. Caravaggio's Martha and Mary Magdalene, 1598.
Source: dia.org/collection/-36204**

In 1598, Caravaggio created 'Martha and Mary Magdalene' (also known as 'The Conversion of Magdalene'). According to a will dated 1606, the painting was originally purchased by one of Caravaggio's patrons, Ottavio Costa. The painting Martha and Mary Magdalene, painted in oil and tempera on canvas, is believed to depict the exact moment of Mary Magdalene's atonement. She is leaning against a convex mirror that reflects the lighted window behind her sister Martha. The two women appear to be in deep conversation, while Martha, who is in the shadows, counts on her fingers. Traditionally, scholars agree that the painting «Martha and Mary Magdalene» depicts the moment of the Conversion of Mary Magdalene *(Nicolaides, 2018)*.

However, if we compare this painting with Caravaggio's 1597 painting «Penance of Mary Magdalene», where the identification of Mary's atonement is obvious, the moment depicted in Martha and Mary Magdalene is quite different. This article argues that the Martha and Mary Magdalene of 1598 does not depict the scene of Mary's atonement, but the moment after it. Caravaggio depicts Mary after the atonement in order to convey two types of Christian beliefs of the Counter-Reformation: good deeds and spiritual love, which are represented by the two women in the painting. It is through the study of the formal and iconographic elements of the painting and other paintings of the Magdalene against the backdrop of the Counter-Reformation that a new interpretation emerges (digitalcommons.odu.edu/).

Titian was one of those artists who depicted the Magdalene as a symbol of redemption. In two iconic works, he shows Magdalene repenting. The viewer sees the moment from the Gospel when Magdalene realises her sinful life and weeps, looking up to heaven. Titian's first Magdalene was painted in 1531, and then he returned to it 30 years later (kulturologia.ru/blogs//).

The Penitent Magdalene was the most frequently commissioned subject for Titian and the most successful in his oeuvre. The demand for paintings of the saint was high for over forty years, during which the artist repeatedly subtly changed and altered the composition – perhaps in the pursuit of perfection, or perhaps simply to provide patrons with his own individual version of the plot. The study of «The Penitent Magdalene» by Titian has been the subject of much scholarly research (blog.dorotheum.com/).
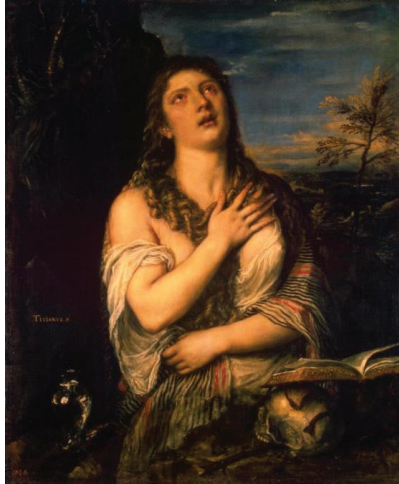
Photo 5. Titian «Repentance of Mary Magdalene», 1565.
Source: www.artbible.info/art/html

Photo 6. Francesco Furini's Mary Magdalene, 1630-1635.
Source: www.alamyimages.fr/photost

Francesco Furini studied painting in Florence under Christofano Allori and was well connected to the Medici court. He excelled in depicting female heroines and saints, who were given a look of melancholic contemplation. It was the overall emotional colouring and skilfully painted sfumato that attracted great attention to his work and followers who learnt to paint from his works. Mary Magdalene is crying tears of regret for her sinful life. This saint is symbolised by a pot of peace. It is a reminder of the event described in the Gospels, when at a feast at Simon's house, Mary washed Christ's feet with her tears, and then anointed and wiped them with her hair.

Photo 7. Georges de Latour, Magdalene with a Smoky Candle, 1638-1640.
Source: https://www.metmuseum.org/art9

In de Latour's painting, Mary Magdalene sits in front of a table, completely absorbed in her thoughts. Her right hand rests on her skull, her legs are bare, and her white shirt reveals her bare shoulders. Mary Magdalene's body is enveloped in mysterious darkness, and her face is illuminated only by a candle. The lamp not only creates an atmosphere of movement, but is also an element that hints at the fragility of human life. Thanks to this light source, we can see books and attributes that characterise the Passion of Christ and the transience of life. Here is a wooden cross and a bloody whip. The skull is Golgotha, the place of Christ's crucifixion. The hand caressing the skull also has a meaning: it reflects the theme of death. The flames and the skull together represent the transience and irreversibility of time. Thus, all the elements of the painting refer to the themes of repentance and trials sent by God (https://kulturologia./).

With its extraordinary contrasts of candlelight and shadow, reduced geometry, and meditative mood, this painting is an example of La Tour's painting at its most accomplished and characteristic. These visual qualities were a powerful counterweight to the typical pomp and showiness of Baroque painting. A native of the Duchy of Lorraine in eastern modern France, Georges de Latour was indebted to Caravaggian painting, but he sought even more simplified forms. The tranquil atmosphere of this painting perfectly matches the subject, Mary Magdalene, who has given up bodily pleasures for a life of penance and reflection. She is depicted with a mirror, a symbol of vanity; a skull, an emblem of mortal life; and a candle, which probably indicates her spiritual enlightenment (https://www.metmuseum9).

Looking at this work, the viewer does not immediately recognise St Magdalene in the heroine. She is depicted as a beauty with long golden hair in the Pre-Raphaelite style. Interestingly, Sandys specialised in the girded figures of beautiful and fatal women. Sandys' meticulous attention to detail is typical of the Pre-Raphaelite school. Sandys's images of female beauty are iconic depictions of charming and mysterious women, representing his unique style. The heroine is depicted almost in profile. The background is dark green with English ornamentation. The heroine is holding a vessel with legs (her main attribute), and her shoulders are covered with a red and green shawl with floral ornaments. This image of Magdalene stands out from the rest of the paintings. Mary Magdalene is considered a saint in the Catholic, Orthodox, Anglican, and Lutheran churches. Some other Protestant churches honour her as a heroine of the faith. Mary Magdalene is the only figure from the Bible that Sandys ever painted, and he gave Magdalene a powerful and sensual appearance (https://joyofmuseums.com/).

Photo 8. Mary Magdalene by Frederic Sandys, 1858-1860.
Source: https://joyofmuseums.com/

Photo 9. Carlo Dolci «Penance of Mary Magdalene», 1670.
Source: https://data.fitzmuseum.4

The repentance of St Mary Magdalene is a traditional theme, especially popular in seventeenth-century Italian art. In the painting by Carlo Dolci, Magdalene is depicted with her hair down, her right hand on her chest, and the palm of her left hand raised up and resting on an open book. Her traditional attribute, the pot of oil with which she came to anoint Christ, is depicted in the right foreground among the rocks. By the way, the loose hair and the pot are a reference to the Gospel of Luke (7:37-8). The scripture describes a sinful woman who anointed the feet of Christ, washed them with her tears and wiped them with her long hair. Carlo Dolci was a deeply devout man and became famous for his emotional rendering of religious subjects and his meticulous description of details. Mary Magdalene was his most frequently depicted heroine *(Beavis, 2013: 145-154)*.

Photo 10. The Transfiguration of Mary Magdalene (Repentance of Mary Magdalene) by Artemisia Gentileschi, 1615-1616. Source: https://www.uffizi.n

Artemisia Gentileschi was the first woman artist to join the Florentine Academy, and she painted the image of the touching Magdalene in 1616 (https://www.uffizi.n). It was the Medici family commission. Gentileschi's heroine is dressed in a yellow dress with lace and sits among luxurious silk and velvet. One of Magdalene's hands is clasped to her chest, and the other to the mirror that showed her who she was before God. Her eyes are now fully open and long for freedom, Christ, and light. Mary Magdalene does not cease to be beautiful when she turns to Christ, but this beauty is no longer for enrichment. It is for the glorification of the Lord, who loves her more than anyone else ever could. Artemisia Gentileschi wanted to tell the story of this difficult journey by depicting a young woman with loose hair, wrapped in a luxurious yellow silk dress, holding a mirror, a symbol of vanity, with the inscription «Optimam partem elegit» («You have chosen the best», namely, the virtue) at a distance from her. A beam of intense light illuminates the figure on the right, demonstrating a technique that Artemisia may have learned from studying Caravaggio's work in Rome, and conveys a sense of drama that envelops the subject. The human and professional parable of Artemisia Gentileschi, an extraordinary artist and energetic woman, is fascinating because she is considered a harbinger of female talent, gifted with a unique character and willpower. It was this talent that allowed her, when she arrived in Florence from Rome at a very young age, to enter the Florence Academy of Art and Design, learn to read, write, play a musical instrument and become part of the cultural world in every sense (https://www.uffizi.n).

5. Prayer to St Mary Magdalene in the context of sacred communication during pilgrimage

O holy myrrh-bearer and all-merited disciple of Christ, Mary Magdalene! To you, as a faithful and powerful Lord intercessor for us, sinners and unworthy, we now diligently resort and pray in the humility of our hearts.

In your life you suffered terrible wiles of the devil, but by the grace of Christ you were delivered from them, and by your prayers you deliver us from the nets of the devil, so that in

all our lives we may always serve the one Holy Lord God faithfully in deed, word, thought and secret thoughts of our hearts, as we have promised Him.

You loved the sweetest Lord Jesus above all earthly goods, and therefore you walked well through your life, and by His divine teaching and grace not only nourished your soul, but also led many people from the darkness of the pagans to Christ, who is a wonderful light; knowing this, we ask you: «Ask us from Christ God for the grace that enlightens and sanctifies, so that, inspired by it, we may succeed in faith and piety, in deeds of love and selflessness, and may we strive with inspiration to serve our neighbours in their spiritual and physical needs, remembering the example of your love for humanity».

O holy Mary, you lived your life on earth with vigour by the grace of God and departed peacefully to the heavenly abodes, pray to Christ the Saviour that through your prayers He may grant us to make our journey through this valley of weeping without hindrance and to end our lives in peace and repentance, and so, having lived in holiness on earth, we may attain to eternal blessed life in heaven, and there, with you and all the saints, we will always praise the Undivided Trinity and sing the praises of the One Godhead, Father, Son and Holy Spirit, for ever and ever. Amen. (https://patriarchia.org.ua/molytva-do-svyatoyi-mariyi-magdalyny/).

6. The figure of St Mary Magdalene in cinema

Since Saint Mary Magdalene was considered the first exorcist, and Jesus cast out seven demons from her, as described in the Gospel of Luke, cinema also did not stand aside, and a number of films were made about this personality, in which Mary Magdalene was portrayed from different angles, both as a saint and as a simple woman with ordinary life problems and feelings.

The Twelve were with him, and also some women who had been cured of evil spirits and diseases: Mary (called Magdalene) from whom seven demons had come out *(Luke 8:2)*.

A recent study *(Panchenko, et al. 2023)* stated examples of films about Mary Magdalene: «Mary Magdalene» (2000), Germany, Italy; «Magdalene: Deliverance from Shame» (2007), USA; «Mary Magdalene» (2018), «The Woman in Red: The True Story of Mary Magdalene» (2017), documentary series «The Apostles» (5 episodes) (2015), Israel; The Bible: Courage (10th episode), (2013), USA; a multi-part television series about the life of Christ and the apostles «The Chosen» (2017-2020), USA.

The purpose of these feature films, of course, is the biblical retellings of the New Testament, the Good News about the deeds of the Apostles led by Jesus Christ, the main Apostle-messenger of God, and St Mary Magdalene fills these films with high spiritual content and hope for salvation and the possibility of an ordinary worldly person to reach sacred heights, but for this you need to work on yourself and your spiritual life (https://velychlviv.com/).

7. Conclusions

In the article, the author examined the pilgrimage routes of St Mary Magdalene in terms of the transformation of the route from its historical significance as a physical path to the means of modern types of communication through virtual travel, and recreated the 222 km long French route consisting of 10 sacred stages to the final destination of the Cathedral of St Mary Magdalene, where the relics are located *(Norton, 2009)*.

The author *(Panchenko, S. et al., 2022)* emphasises that the creative search led to art, in particular painting, in which Mary Magdalene was often depicted by prominent artists and these works of art were accompanied by secrets, legends, codes, and later literary masterpieces were

created, which were transformed into modern cinema on sacred themes. It also testifies to an artistic pilgrimage to cultural works and world masterpieces.

The figure of St Mary Magdalene is full of secrets, ambiguous legends, and ambiguous conclusions, which is why it is quite interesting and mysterious for all time, as people are always looking for subtext, reading between the lines and coming up with their own versions, and this is the mystery of the legendary biblical heroine Mary Magdalene. That is why a number of documentaries and fiction films have been released in which Mary Magdalene is the main character, and this gives the authors hope for further research on the analysis of films about Mary Magdalene and legends from the New Testament in the context of contemporary cinema as Christian communication.

References

1. Bailey, Anne E. (2023). *Journey or Destination? Rethinking Pilgrimage in the Western Tradition. Religions 14: 1157. https://doi.org/ 10.3390/rel14091157*

2. Beavis, M. A. (2013). *The Deification of Mary Magdalene. Feminist theology, 21(2), 145-154 https://journals.sagepub.com/doi/10.1177/0966735012462840 https://doi. org/10.1177/09667350124628*

3. Bernstein, A. & Scharf, I. (2018). *Mary Magdalene's image gets new look from Church for modern age. Crux. Associated Press, Mar 30, 2018 https://cruxnow.com/vatican/2018/03/ mary-magdalenes-image-gets-new-look-from-churchfor-modern-age*

4. Botella-Carrubi, D., Curras Mostoles, R., & Escrivá-Beltrán, M. (2019). *Penyagolosa trails: From ancestral roads to sustainable ultra-trail race, between spirituality, nature, and sports. A case of study*

5. Clark, A. C., Marshall, I. H., & Peterson, D. (1998). *The Role of the Apostles. Witness to the Gospel, 169-190*

6. Collins-Kreiner, N. (2018). *Pilgrimage-tourism: Common themes in different religions. International Journal of Religious Tourism and Pilgrimage, 6(1), 8-17. doi:10.21427/D73428*

7. Damari, C., & Mansfeld, Y. (2016). *Reflections on pilgrims' identity, role and interplay with the pilgrimage environment. Current Issues in Tourism, 19(3), 199–222. doi:10.1080/1368350 0.2014.957660, https://ideas.repec.org/a/taf/rcitxx/v19y2016i3p199222.html*

8. Dimitrova, G., & Chakarova, S. (2015). *Intercultural communication in the context of tourism. Cultural Corridor Via Adriatica: Cultural Tourism without Boundaries. SWU «Neofit Rilski» Publishing House, 328. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2755251*

9. Doll J (2006). *Following Mary: Magdalene devotees shape their own religious realities. In: Burstein D, de Keijzer A (eds) Secrets of Mary Magdalene: A Guide to Her Story, History and Heresy. London: Orion Books, 305-406*

10. Enfield, Lizzie. 2018. «Sacred Steps: Walking Norway's St Olav Ways». *Financial Times, 12 October. URL: https://www.ft.com/content/435a02f2-cd2e-11e8-8d0b -a6539b949662 (accessed 20 December 2023).*

11. Brock, Graham, A. (2002). *Setting the record straight-the politics of identification: Mary Magdalene and Mary the mother in Pistis Sophia. Which Mary? The Marys of Early Christian Tradition, 43-52*

12. Apostol (hrets. απόστολος, «poslanets»). *URL: http://blyzhchedoboga.com.ua/glossary/ apostol/*

13. A Lost Penitent Magdalen by Titian. *URL: https://blog.dorotheum.com/en/a-lost-penitent-magdalen-by-titian/*

14. The penitent Magdalene, by Carlo Dolci. URL: https://data.fitzmuseum.cam.ac.uk/id/image/media-219094

15. Martha and Mary Magdalene. URL: https://dia.org/collection/martha-and-mary-magdalene-36204

16. Interpreting the Divine Magdalene: Caravaggio's 'Martha and Mary Magdalene'. URL: https://digitalcommons.odu.edu/undergradsymposium/2022/arthistory/6/

17. Molytva do sviatoi Marii Mahdalyny. URL: https://patriarchia.org.ua/molytva-do-svyatoyi-mariyi-magdalyny/

18. In the Footsteps of Saint Mary Magdalene. URL: https://provence-alpes-cotedazur.com/en/things-to-do/nature-outdooractivities/in-the-footsteps-of-saint-mary-magdalene/gemenos-plan-daups/

19. Zhyttia sviatykh. URL: https://velychlviv.com/category/analityka/zhyttya-svyatyh/

20. Penitent Mary Magdalene (1565). URL: https://www.artbible.info/art/large/359.html

21. The Penitent Magdalen. URL: https://www.metmuseum.org/art/collection/search/436839

22. Christ in the house of Martha and Mary. URL: https://www.nationalgallery.org.uk/paintings/diego-velazquez-christ-in-thehouse-of-martha-and-mary

23. St. Mary Magdalen

24. Artemisia Gentileschi (Roma 1593 – Napoli 1652/53). URL: https://www.uffizi.it/en/artworks/artemisia-saint-mary-magdalen

25. In the Footsteps of Saint Mary Magdalen. URL: https://provence-alpes-cotedazur.com/en/things-to-do/nature-outdoor-activities/in-the-footsteps-of-saint-marymagdalene

26. John 11, 32. URL: https://bible.usccb.org/bible/john/11

27. John 12, 3. URL: https://bible.usccb.org/bible/john/12

28. John 19, 25-27. URL: https://bible.usccb.org/bible/john/19

29. John 20: 1-2; 15-16; 17; 18-20. URL: https://bible.usccb.org/bible/john/19

30. In the Footsteps of Saint Mary Magdalen. URL: https://provence-alpes-cotedazur.com/en/things-to-do/nature-outdoor-activities/in-the-footsteps-of-saint-marymagdalene/

31. Judák, V., Petrikovičová, L., & Akimjak, A. (2022). Religious Tourism on the Example of Nation Pilgrim Places in Slovakia (Patronages of the Virgin Mary)

32. Luke 7:38; 47 https://bible.usccb.org/bible/luke/7

33. Luke 8: 1-3; https://bible.usccb.org/bible/luke/8

34. Luke 10:41-42 https://bible.usccb.org/bible/luke/10

35. Luke 24: 9-12. https://bible.usccb.org/bible/luke/24

36. Mark 15: 40-41, 47. https://bible.usccb.org/bible/mark/15;

37. Mark 16: 1-3; 9-11. https://bible.usccb.org/bible/mark/16

38. Mathew 27: 56, 61. https://bible.usccb.org/bible/matthew/27

39. Matthew 26:13 https://bible.usccb.org/bible/matthew/26

40. Matthew 28: 13 https://bible.usccb.org/bible/matthew/28

41. Mykytka, M. D. Yu. (2018). Synonymous relations in Latin religious terminology (on the material of the work «Etheria's Pilgrimage to Holy Places».

42. Nicolaides, A. (2018). Mary Magdalene and Orthodoxy: Apostle, Heroine or Feminist. Pharos Journal of Theology, 99(13). https://www.pharosjot.com/uploads/7/1/6/3/7163688/article_13_vol_99_2018_nicolaides_uni sa.pdf

43. Norton, J., & Starbird, M. (2009). 14 Steps to Awaken the Sacred Feminine: Women in the Circle of Mary Magdalene. Simon and Schuster.

44. Vidal-González, Pablo; Josep Capsí (2023). *Contemporary Significance of Medieval Pilgrimages: A Post-Modern Physical Practice to Create Value in the Rural Environment. DOI: 10.4018/978-1-6684-9923-8.ch005*

45. Panchenko, S. et al. (2022). *Topical Issues in the Field of Religious Tourism. Current Challenges. Journal of Environmental Management and Tourism*

46. Panchenko, S.; Bakhov, I.; Nych, T.; Boretskaya, N. (2023). *Pilgrimage and Religious Tourism as Social Communication. South. Semiot. Rev. 2023 ii, 149–169, https://doi.org/10.33234/ ssr.18.9.*

47. Phillips, G. (2018). *The Chalice of Magdalene. The Search for the Cup That Held the Blood of Christ http://www.grahamphillips.net/chalice/chalice1.html*

48. Raj, Razaq, Kevin Griffin, and Ruth Blackwell. (2015a). *Motivations for Religious Tourism, Pilgrimage, Festivals and Events. In Religious Tourism and Pilgrimage Festivals Management: An International Perspective. Edited by Razaq Raj and Kevin Griffen. Wallingford: CABI, pp. 103-16.*

49. Raj, Razaq; Griffin, Kevin, (2015b). *Religious Tourism and Pilgrimage Management. An International Perspective. CAB International.*

50. The International Journal of Religious Tourism and Pilgrimage: Volume 10, Issue 4 (2022). *Special Issue: Pilgrimage as a Multi-Faceted Diamond. https://arrow.tudublin.ie/cgi/viewcontent.cgi?article=1860&context=ijrtp*

ORIENTAL CODE OF "LISOVA PISNIA" BY LESIA UKRAÏNKA

Anna Skorofatova

PhD, Assistant Professor, National Technical University of Ukraine
"Igor Sikorsky Kyiv Polytechnic Institute", Ukraine
e-mail: anna_skor@yahoo.com, orcid.org/0000-0002-4036-2407

Summary

Despite the considerable corpus of scholarly publications addressing to genius Lesia Ukraïnka's legacy, we are far from the global multifaceted comprehension of her phenomenon. The article presents a new interpretation of "Lisova Pisnia" by Lesia Ukraïnka through the prism of oriental aesthetics (code), which goes through the life and oeuvre of the poetess, made on the base of the systematic method of research, which includes such modern methods of literary analysis as: contact technique in combination with the biographical method; the parallel method, in particular in the study of literary analogies and contrasts in the literatures of different continents and eras ("Lisova Pisnia" by Lesia Ukraïnka and "The Epic of Gilgamesh"); elements of Freudian psychoanalysis; a hermeneutic and poststructuralist approach (a textual analysis offers many different codes that are at the same time closely intertwined and incomplete); intertextual approach and elements of feminist criticism. The target readership for the article is all the interested in Ukrainian literature and culture in the global context.

Key words: "Lisova Pisnia" by Lesia Ukraïnka, "The Epic of Gilgamesh", the "Ashurbanipal effect", Lesia Ukraïnka studies, oriental code.

1. Introduction

Despite the considerable corpus of scholarly publications addressing to genius Lesia Ukraïnka's legacy, we are far from the global multifaceted comprehension of her phenomenon. The late 19th – the early 20th century was marked by the intense interest of European intellectuals, in particular modernist writers, in the East and Oriental studies in order to seek inspiration, get hold off new themes and images, to renovate, to reach the "enlightenment". This period can be characterized with the awareness of the fact that European culture had been stuck in a rut, the appearance of numerous magazines and manifestos, the foundation of small groups and artistic association in order to change the situation appealing to the Middle and Far East, Africa, India, etc. aimed at obtaining new cultural inspiration, the patterns of how things can be done differently. At this time, the intellectuals decoded the ancient cuneiform tablets, published the first translations of the literary masterpieces of the Ancient East into European languages, in particular the "discovery of the century" "The Epic of Gilgamesh" (hereinafter referred to as the Epic) (1900 – in German, 1907 – in French, 1909 and 1911 – in German) *(Jensen, 1900; Dhorme, 1907; Gressmann, 1909; Gressmann, A. Ungnad 1911).*

The objective of this article is to present a new interpretation of "Lisova Pisnia" by Lesia Ukraïnka through the prism of oriental aesthetics (code), made on the base of the systematic method of research, which includes such modern methods of literary analysis as: contact technique in combination with the biographical method; the parallel method, in particular in the study of literary analogies and contrasts in the literatures of different continents and eras;

elements of Freudian psychoanalysis; a hermeneutic and poststructuralist approach; intertextual approach and elements of feminist criticism.

In Ukraine, Mykhailo Drahomanov, the uncle and consultant of Lesia Ukraïnka, and Lesia herself were at the origins of Oriental studies. In 1890–1891 Lesia Ukraïnka wrote the first Ukrainian manual on the history of the peoples of the East for her younger sister ("Стародавня історія східних народів" ("The Ancient History of the Oriental Peoples")). In 20 years, in 1910–1911, being treated in Egypt, she resumed editing and refining the manual, using the works of Gaston Maspero *(Maspero, 1878)* and Louis Menard (*L. Menard,188)*, and proposed to change the title to "Історія давніх народів Сходу. Зложила Леся Українка по Менару, Масперо і інших" ("The History of the Ancient Oriental Peoples. Compiled by Lesia Ukraïnka after Menard, Maspero and others") (the letter to sister Olha dated by 14 October 1911). However, the manuscript of the new version of this manual was lost, therefore in 1918, after Lesia Ukraïnka's death, her sister, Olha Kosach-Kryvyniuk, published its original version *(Ukraïnka, 2018)*. In the manual "The Ancient History of the Oriental Peoples" (hereinafter referred to as "History"), the author laid down the principle of priority of the historical studying the spiritual, ethical and cultural experience of the ancient the peoples of the East, that she considered to be the most valuable *(Ukraïnka, 2021, vol. 10)*. In particular, in the chapter "Primitive times", the author with a special piety characterizes the syllabic writing of the Assyrians, who used clay tablets for writing, and mentions the Behistun Inscription in Old Persian, Median, and Assyrian-Babylonian languages as a scientific source for decoding Mesopotamian written artifacts on the clay tables and columns in the discovered libraries, in particular in the library in Ashurbanipal's palace in Nineveh *(Ukraïnka, 2021, vol. 10:241–242, 250)*.

From Lesia Ukraïnka's letter to her sister Olha dated by 11 August 1911 we know that "Lisova pisnia" was written by Lesia when she was editing her "History" at the urging of a sudden impulse, creative ecstasy *(Ukraïnka, 2021, vol. 14: 228–229)*: "*Yesterday I received the last portion of the rewritten "History". Now I have the whole there... By October I hope to revise the manuscript properly, if removals, health or something else won't prevent. Until now, I have not been able to do this due to some home keeping work, but recently I just have been "seized by a poetry impulse" to write, so I finished some of the old things, and in addition, I wrote a drama-narrative poem in 3 acts for 10 days, under such an impetus that I couldn't sleep at night and even eat at the daytime... When I finished it, I got a little weaker as I had a fever and faintness, so I have thinned down a bit, but now everything is fine*" (Ibidem). At the same time, she actively was corresponding with the outstanding orientalist Ahatanhel Krymsky. In the letter dated by 27 October 1911 she wrote to him: "*I should have been born in Egypt, then maybe it would have been all right, but the worst mistake of my life is that I grew up in the Volynian forests, the rest are just logical consequences. However, I do bear no ill will to the Volynian forests. This summer, remembering them, I wrote a "drama-extravaganza" in their honor…*" *(Ibidem: 275)*. In a letter to her mother dated by 2 January 1912, Lesia depicted in more details about the impulse to create "Lisova Pisnia", but noted that it was difficult for her to arrive at the truth consciously ("*to grasp it consciously*") in this case: "*But I am "not indifferent" to this thing, because it gave me so many precious moments of ecstasy than any other. There wasn't the impulse from Nikolai Gogol, as far as I can grasp it consciously. It seems to me I just had remembered our forests and longed for them. Besides, I've been "holding" that mavka in my mind for a long time, ever since you told me something about mavkas in Zhaborytsia, when we were walking through a forest with small but very bushy trees. Then in Kolodiazhne, at a moonlit night, I ran alone into the forest (no one knew that) and waited there for a mavka to appear to me. And in Nechimne, I dreamed about her when we spent the night there – do you*

remember? – at uncle Lev Skulynsky's... Apparently, I should have written it once, and now for some reason the "right moment" has come *– I don't understand this reason actually*" (Ibidem: 284–285).

That is why the Volynian landscape of "Lisova Pisnia" ("*A dense and hoary primeval forest in Volynia… At one end the glade turns into tussocks and reedy growths, and then into a vivid green marsh, the shore of a woodland lake…*" (Prologue)) is so syncretically harmonized with the description made by "*one Roman historian*" of Lower Mesopotamia, given by Lesia Ukraïnka in her "History" in the section about the Assyrians and Babylonians ("*The Euphrates overflows every spring... the excess water spills over the plains close to the sea and creates lakes overgrown with reeds…*") *(Ukraïnka, 2021, vol. 10: 275)*; the pictures of the mountains of Lebanon, which "*provided with cedar, pine, and cypress trees*", and coastal bays in the section devoted to the Phoenicians *(Ibidem: 239)*; Lebanese landscapes from the "exotic poems" by Ahatanhel Krymsky (collection "Пальмове гилля" ("Palm Branch") (1898–1901)) and the Lebanese-Mesopotamian "sacred-cedar" settings of the "Epic of Gilgamesh" ("*They saw the Mountain of Cedar, seat of gods and goddesses' throne. [On the] face of the mountain the cedar proffered its abundance, its shade was sweet and full of delight*". (Table 5)) *(The Epic of Gilgamesh, 2000)*. Conventionally we name such syncretism in creative impulse as "Ashurbanipal effect".

2. The Mirror between Female Masculinity and Male Femininity, or What Mavka and Enkidu Have in Common and How Lukash is (Un)Similar to Gilgamesh

The Epic starts by presenting the protagonist Gilgamesh as an experienced, open to new knowledge, wise man who got enlightened after his wanderings and searches for immortality epitomized in his epical literary story about his way to this enlightenment: "*He who saw the Deep, the country's foundation, [who] knew ..., was wise in all matters!*" (Table 1). At the beginning of "Lisova Pisnia" Lukash, whose name comes from Latin "lux" ("light"), described as inexperienced, narrow spirited, incapable even of self-cognition, and only at the end of the drama, after getting back from his wanderings in the guise of a werewolf, he quietly says about himself with "*a queer, quiet smile*": "*Ah, wife, I see that which you cannot see . . ./ I've learned some wisdom now...*" (Act III).

By his origin, Gilgamesh is the firstborn of Lugalbanda (Shum. "a younger (or adolescent) king"), who, according to the legend, was a shepherd, and of Ninsun (Shum. a mistress of wild cows), the patron goddess of shepherds and herds with a symbolic presentation as a wild cow. Two-thirds of Gilgamesh is a god and one third is a human (Table 1). Lisovyk (Forest Elf, a woodland sprite) from "Lisova Pisnia" notes about Lukash that "*He's from afar; / Not from these woods, but from the groves of pine / Where our Great Father all his winters spends. / The widowed mother and her orphaned son / Were given a home by good old Uncle Lev*" (Act I). We know about Lukash's mother that she opts for Kylyna as a daughter-in-law because she (Kylyna) possesses "*a cow of Turkish breed*" (Act II). Lukash is also a mortal human being who is blessed with a higher gift, which Mavka tells him about: "*Do not despise that flowering of your soul, / For from your music this our love was born! / Like to the magic blossom of the fern, / Which hath creative power within itself*" (Act II).

Gilgamesh is a reliable and brave warrior-brother, "*brave scion of Uruk, wild bull on the rampage!*", who "*Going at the fore ...was the vanguard, / going at the rear, one his comrades could trust!*", "*a violent flood-wave, smashing a stone wall!*", "*the perfect in strength*", "*has no equal when his weapons are brandished*" and "*tall, magnificent and terrible*", handsome

because "*It was the Lady of the Gods drew the form of his figure*" (Table 1). Lukash, although he is also young and handsome, slender and black-browed, but has "*a still childish look in his eyes*" (Act 1) and physically can't even take a stand against Kylyna. At the beginning of the Epic, Gilgamesh is shown as a despotic ruler of the city, who forces the young men to build a city wall from sunup to sundown and "*lets no [daughter go free to her] mother*" or "*to [her bridegroom]*", exercising droit du seigneur and having sexual intercourse with all the girls of Uruk, for what the city community complains of him to the gods (Table 1). Lukash, on the contrary, is chaste ("*I've never been / In love before*") and easily tempted ("*I never knew / That love could be so sweet*") (Act 1).

The framing of the Epic is the fact that the main Gilgamesh's achievement is infrastructure development of Uruk and a patron goddess' of the city, Ishtar's, sacred storehouse and construction of a wall around the city. And also, Gilgamesh is famous for the fact that he consecrated in stone his name to posterity, that is, he left his successions with an epical description of his travels as an author, not a copyist or scripter: "*[See] the tablet-box of cedar, / [release] its clasp of bronze! [Lift] the lid of its secret, / [pick] up the tablet of lapis lazuli and read out / the travails of Gilgamesh, all that he went through*" (Table 1). Lukash in Act II builds a dwelling that may easily be destroyed or burned down. As for the cattle pen, he made it under the pressure of his mother (Act II). At the end of Act III, Lukash is already the watchman of the burnt house, who tells to Kylyna "*with a contemptuous smile*": "*Who's going to stay / To keep a watch on this that still remains?*" (Act III). We know nothing about Lukash's wanderings in the guise of a werewolf. He is able just to pipe about it in one's dying hours on the advice of Fate and at the behest of Mavka.

Gilgamesh "*scoured the world ever searching for life, / and reached through sheer force Uta-napishti the Distant; / … restored the cult-centres destroyed by the Deluge, / and set in place for the people the rites of the cosmos*" (Table 1) (Uta-napishti is the Sumerian counterpart of Noah, who started a new mankind after the flood, was also considered to be a progenitor of Gilgamesh), that is, he has restored the generational bridge and collective memory. In "Lisova Pisnia" Uta-napishti corresponds to Unkle Lev, who has a boat and avoids the death by drowning in the fight with Vodianyk (Water Goblin, guardian spirit of the lake), he also tells stories to Lukash about the past (fairy-tales about Okh-Sorcerer (a forest king), Tromsyn, the Princess of the Wave), like Uta-napishti to Gilgamesh, and is the head of the family and the last holder of "antediluvian" knowledge. Gilgamesh contributed to rebuilding the city after the flood giving the tranquility to all people with that, Lukash, however, was not going to restore the burnt house and borrow customs and Uncle Lev's wisdom as well, but he had a quite opposite gift: not to give the tranquility or peace, but to awaken up, in particular Mavka, by playing the pipe and a werewolf's howling.

What events set Gilgamesh on the path to enlightenment and getting back to Uruk as a wise ruler and reconstructor of the city? In response to the community complaints, Anu – the supreme god of the sky, asked Aruru, the Great goodness who creates all human beings of clay and prophesies their fate, to create Enkidu, the equal of Gilgamesh, to distract him from his outrages on fighting with an equal rival: "*Let him be a match for the storm of his heart, / let them vie with each other, so Uruk may be rested!*" (Table 1). So, with an eye to Gilgamesh's pursuing a better path the gods created a being worthy of Gilgamesh and equal to him not in his outrages, but in his valiantness. Enkidu is literally "son of Enki", that is, the son of the god of fresh waters and the underworld, of wisdom (as Enkidu was made of fresh water and clay). In the Sumero-Akkadian cosmogony there was a divine triad: passive Anu; active and hostile to people Enlil (Bel, Baal) – the lord of the wind, the god of the air, who unites the upper world

(earth), water and air, because he carries out storms and hurricanes both on water and on land; and well-minded to the people Enki (Ea). Enkidu looks like: "*All his body is matted with hair, / he bears long tresses like those of a woman: / the hair of his head grows thickly as barley*" (Table 1). Enkidu lives alone: "…*he knows not a people, nor even a country. / Coated in hair like the god of the animals, / with the gazelles he grazes on grasses, / joining the throng with the game at the water-hole, / his heart delighting with the beasts in the water*" (Table 1) and prevents hunters from hunting animals.

Mavka's origin is not known for sure even to herself: "*It seems to me that here I've always lived...*" (Act I), she accepts a willow as her mother (trees, especially a willow, were considered to be a bridge between the underworld and overworld and united the elements of the earth, the ground water, and the air), and Lisovyk as her father/grandfather, who is more well-minded to the people (in contrast to Vodianyk). The contraposition of Lisovyk and Vodianyk resembles the confrontation between Enlil and Enki. Mavka, when we see her for the first time, is dressed in the light green transparent garment and has "*her black hair, hanging loose*" with "*a greenish sheen*" (Act I). Mavka tells to Lukash about her loneliness: "*In all my life I've never been outside"* (the forest) (Act I), and here, in the forest, the birch is gloomy, the alder is rough, the aspen is frightening, the oaks are too pompous, the wild rose, the hawthorn and blackthorn are badass, the ash, maple, and sycamore are haughty, the viburnum blows her own horn because of her beauty and that is why seems to be totally indifferent, the willow is dry, cracks and thinks of winter constantly, and all dances and jokes are "*All those are but like sudden gusts of wind*" (Act I). Mavka knows "*Here in the forest there / Are certain pitfalls hidden in the brush, / Of which nor beasts nor humans are aware / Until they fall therein*" (Act II) and defends the forest from people, particularly her "sisters" Birch and Field Sprite from Lukash's knife and the reaping-hook, which Lukash's mother put in Mavka's hands.

The hunters complained on Enkidu to Gilgamesh, who ordered to lead Shamhat the harlot (from Akkadian "beautiful") for Enkidu to seduce him and wean off of the beasts. Shamhat saw Enkidu at a watering hole, seduced him with her naked body, made love to him for six days and seven nights, and, as a result, "*The gazelles saw Enkidu, they started to run, / the beasts of the field shied away from his presence*", "*Enkidu was weakened, could not run as before*", but "…*now he had reason, and wide understanding*". Shamhat invites Enkidu to the city to show his strength to the people in the fight with Gilgamesh, tempts him with discovering the joys of urban life, because he does not know life, teaches him to dress, eat human food and drink human drinks and "*The barber groomed his body so hairy, / anointed with oil he turned into a man. / He put on a garment, became like a warrior"* (Table 2). As for the fight and, accordingly, the first meeting of Enkidu and Gilgamesh, Enkidu stands in Gilgamesh's way to one couple's house on their wedding night, thus putting an end Gilgamesh's outrages in the city (cf. the first meeting of Mavka and Lukash – Mavka rushes to prevent Lukash from tapping a birch tree for sap).

In "Lisova Pisnia" we have two female "civilizers": firstly, Lukash's mother invites, "*opulent*", "*a full-faced young widow*" named Kylyna (like that Shamhat) in order to wean off her son of "*running off to fool around / With that bold hussy, that queer vagabond!*", "*witch from the woods*", "*forest trash*" (about Mavka). But if Shamhat civilizes Enkidu, then Kylyna, on the contrary, primitivizes Lukash. Oksana Zabuzhko noted, that "their introductory (mating) love game in Act II is the most overtly sexual scene in the entire play... This couple demonstrates "a perfect animal partnership" without any mediation of "culture", i.e. music and words". The "game of instincts" turns into the "game of characters" and "the war of the sexes" and firms in a model of "who will be on top" relationships *(Zabuzhko, 2007: 238)*.

Secondly, Lukash's mother pretends to be a "civilizer" for Mavka: "*Why do you always go trimmed up like that? / You're always combing, fixing up your hair. / You dress up like a witch. It isn't nice. / And what is all that rubbish you've got on? / Not practical at all for working in. / I've got some things of my dead daughter's there: / Go put them on – you'll find them hanging up; / These you can lay away inside the chest*", the mother applies to Mavka at the beginning of Act II, who helped to manage the household, brought the wood for putting up the house, helped with the garden, sowed the fields, planted the lovely flowers beneath the window in such a manner "*That when she takes care of the cows, more milk / They always give*" and everything produces a bountiful harvest like never before. Mavka comes to the people deliberately, because of her love for Lukash. But the constant Lukash's mother's heartburning and her "civilizational" pressure force Mavka to disfigure herself in a human cast-off clothing and acquire the status of "*not a bit of good*". In response to Mavka's reproaches, Lukash does not give her a chance to understand humans and find a common ground with his mother: "*To understand these human cares and woes, / One should grow up elsewhere than in these woods*" (Act II).

Pulling away from her nature, Mavka, like Enkidu, loses her identity and strength, and Lisovyk reproaches her for self-betraying. Enkidu later, with his dying breath, curses Shamhat because she made him "[*weak, who was undefiled!] / Yes, in the wild [you weakened] me, who was undefiled!*", but Shamash (Sumerian-Akkadian god of sun, well-minded to Gilgamesh and the city of Uruk) reproaches Enkidu for cursing the woman who made him a human and gave him the friendship of Gilgamesh, who *"[will] lay you out on a magnificent bed. / [On] a bed of honour he will lay you out, / [he will] place you on his left, on a seat of repose; / [the rulers] of the underworld will all kiss your feet. / The people of Uruk [he will have] mourn and lament you*" (Table 7). After that, Enkidu wishes Shamhat all the best. Mavka does not blame anyone, especially Lukash, but only regrets that he can't "*bring your life up to the level of your soul*" (Act II). But who will curse and plague Starvelings (imps personifying Famine and Want) and other troubles each other, are the two "civilizers", the Lukash's mother and Kylyna. Although after Mavka had turned Lukash to a human being again, delivered him, Lisovyk practically renounces her: "*Unworthy of the name of forest child! / Your soul is no more of the forest free, / But of the slavish house!*" (Act III).

3. The Conflict of Two Sphynxes, or the Oedipus Complex

In the Epic, there is a comparison of Gilgamesh and Enkidu, where it is emphasized on their equality: "*This fellow – how like in build he is to Gilgamesh, / tall in stature, proud as a battlement. / For sure it's Enkidu, born in the uplands, / his strength is as mighty as a rock from the sky*" (Table 2). On the contrary, Lukash suggests Mavka might descended from an honorable family: "*Your hands are white, your figure's straight and slim, / Your clothes, somehow, are not the same as ours...*" (Act I). Then the comparison proceeds to another dimension that is spiritual one, where Lukash's "metaphysical blindness" (*Ibidem, c. 262*) can be traced: ("*Your voice is clear as is the running stream; / Your eyes, though, are opaque*"), and Lukash is unable to hold Mavka's eyes with his own: "*Your eyes seem peering down into my soul .../ I cannot stand it*" (Act I).

In "Lisova Pisnia" there is a conflict of two sphinxes – "female" (ancient Greek, from Theban cycle, Oedipodea) and "male" (ancient Egyptian); "winged" and "wingless"; complex existential truth which is mostly incomprehensible and down-to-earth ignorance (cf. dark Lukash's eyes, who can't "*bring*" his "*life up to the level of the soul*"). It was the Theban Sphinx

who threw herself off the cliff into the sea (committed suicide), when Oedipus solved her riddle. Accordingly, Mavka voluntarily goes into oblivion to "He Who Dwells in Rock" (a phantom signifying Death and Oblivion). But after that we have deal already with the Phoenix (again a mythologem from the ancient (Phoenician, old Egyptian) world). Phoenix (the etymology of the word is unknown) is the soul of the deity Ra and one of the hypostases of Osiris that is a union of the afterlife with light, in fact, it is the path of Mavka. In the Phoenix, we again see wingedness, but, at the same time, the ability to arise from the ashes. According to medieval Arabian legends, the Sphinx could restore a person's lost skills and abilities, just one needed to have a look at the monster (Lukash gets horrified, turns his eyes away from Mavka's ones, does not understand her language, finally abandons her and simultaneously dismisses self-cognition and enlightenment). According to the legend, Oedipus met the Sphinx after killing his father (cf. the loss of his father is the main reason for Lukash to come to Uncle Lev's and to the forest), and the Sphinx for Oedipus was the first woman in his life (cf. Mavka is the first love for Lukash), whom he drew to suicide and married his own mother (Lukach's marriage of Kylyna essentially manifests so-called "Oedipus complex").

4. Dreams about the Afterlife and Beyond,
or How Gilgamesh Foreshowed Two Mavka's Deaths

There are quite enough dreams, delusions, transcendent transitions and prophecies, including pseudo and false ones in the Epic and "Lisova Pisnia". At the beginning of the Epic (Table 1), before meeting Enkidu, Gilgamesh has two dreams and relates them to his mother to interpret in her way. In the first dream "*the stars of the heavens appeared above*" Gilgamesh and a rock fell in front of him from the sky, he could not lift up it and dislodge. In the second dream everything happened in the same way but only with the axe. In both dreams "*a crowd [was milling about] before it, / [the menfolk were] thronging around it*" and Gilgamesh "*like a wife [I loved it,] caressed and embraced it*" (rock and axe), as well as his mother her gave blessing ("*you made it my equal*"). The mother predicts to Gilgamesh that "*a mighty comrade will come*", a "*friend's saviour*", whom he will love "*like a wife*", the people will love him as well, and she (the mother) will make him her son equal. The mother didn't just say about that fact that the rock and the axe would cause his friend's death. After the "incomings and outgoings" of Gilgamesh and Enkidu (killing Humbaba (rock) and cutting down cedars (axe)) (see the corresponding section for more details) and their getting back to Uruk, Enkidu has a dream with the great gods in counsel who determine who should die to atone for that violation. The last word was Enlil's one, who decreed: "*Let Enkidu die, but let not Gilgamesh die*!" Enkidu tries to beg the gods off, but: "*The word [Enlil] spoke is not like the ... gods', / [what he] commands, he doesn't erase, / [what] he sets down ..., he doesn't erase*" (Table 7). In the Epic Gilgamesh's mother is depicted as a "*wise*" mother, because she knew about Enkidu's mission for her son and she was familiar with Enkidu's fate as well, but Gilgamesh was not supposed to cognize everything that the gods knew. However, Lukash's mother, on the contrary, wean her son off of Mavka ruining him unconsciously: "*She doesn't fancy such a daughter-in-law ... / She has no liking for the forest folk ... / An unkind mother-in-law she'd be to you*" (Act II). Lukash's mother is materialistic and pragmatic, but she also has a great influence on her son.

In the "Lisova Pisnia", Mavka's "two deaths" are also marked by a rock and an axe. The first dearth was sphinxlike, suicidal, rocky. Mavka fell on an eternal stonelike sleep in the cave of "He Who Dwells in Rock", where she, hearing Lukash's the werewolf howling, seized the thought that she "*...was not destined to forgetfulness...*", mustered up her strength to "*split

the granite vault" in order to give a helping hand to Lukash and turn him to a human being again). The second death was phoenixlike, saving, axe-flamy. Kylyna gave Lukash an axe to cut down the willow that Mavka turned into, it is precisely at the blow of the axe Perelesnyk came flying to save her. In the drama, there is a moment when Mavka seems to evoke death for herself: "*... And yet 'twould lovely be / To die as dies a falling star...*" (Act I).

In his dreams in the mountains in the course of the march to Humbaba, Gilgamesh has another five dreams and Enkidu interprets them for him. In the first dream, Gilgamesh sees how a mountain fell on him (in the sixth dream it will be a giant; both – a mountain and a giant – are embodiments of Humbaba). In the second dream it happened again but Gilgamesh was saved by a handsome man. In Gilgamesh's third dream, the earth rumbled, the sky was getting dark of the dust and the lightning flashed across it but he was saved again by an old man. In his fourth dream Gilgamesh sees a Thunderbird with the breath like death but a strange man cast it down. In the fifth dream Gilgamesh meets "*a bull from the wild*" and someone who gave him water to drink from waterskin. Enkidu interprets all three dreams as a good omen and victory over the enemy (Table 4).

Lukash can't understand and perceive Mavka's "rescue" mission either in his dreams or with his mind. He remains to be "metaphysically blind". Mavka not even once tries to reveal to Lukash the approach to himself ("*Ah, that is why I love you most of all: / Because you do not understand yourself, / Although your soul sings all about what's there / So clearly and sincerely through your pipe*") (Act II), but he keeps nourishing his "sin of ignorance", "which ultimately causes disaster in the microcosm of the drama" *(Zabuzhko, 2007: 263)*.

In the Epic, only the death of Enkidu made Gilgamesh think about the transience of life and the powerlessness of a human over the death, and aware that he had just slept all these years and wants his eyes "*see the sun and be sated with light*" (Table 9) and starts his wandering. Lukash, the werewolf, set off on his wanders not consciously, but as a punishment from Lisovyk, but these encircling between worlds will contribute to his enlightenment as well.

Table 2 of the Epic mentions the episode of Enkidu's struggle with lions and wolves in the outskirts of Uruk that is a certain ritual of joining the civilizational processes and destroying / taming wild nature, in particular his own wild nature. In "Lisova Pisnia" Mavka searches for words as a weapon against the beasts, in particular a human's inner "werewolves": "*I found the magic liberating word / Which transforms brute back into human form*" (Act III), she says to Lisovyk after turning Lukash, the werewolf, into a human back. Mavka is at every turn looking for words to be heard. The most her terrible dream when the lips are dumb.

Enkidu's troubles get started with his awareness of his "lost power" (Table 2). Gilgamesh decided to go on a campaign to Lebanon to kill Humbaba and steal Lebanese cedars. In her "History" Lesia Ukraïnka noted that all Assyrian-Babylonian stories about a war were constructed in the same way and it can be seen in numerous drawings: the cause of the war was the intolerance to strange gods, therefore "*strange gods were taken captive and chopped, holy woods were cut down either*", the victory over the enemy was equal to the victory over "*native gods over strange ones*" *(Ukraïnka, 2021, vol.10: 247, 250)*. For Gilgamesh it is a way to establish "*a name eternal*" (Table 2).

At the beginning of "Lisova Pisnia", Mavka has an awareness of being sleeping for longer time than usually. Mavka tells to Lukash about her "*white*" dreams: "*Through those white dreams came rosy thoughts which made / Themselves into a bright embroidery. / The dreams thus woven out of gold and blue, / Were peaceful, tranquil, not like summer dreams...*" (Act I). That awareness auspices Mavka's the "the Way of the Cross, made up of all-time self-sacrifice" *(Zabuzhko, 2007: 245)*. Mavka's "*white dreams*" will turn into a "*stone-like dream*",

when she agrees to go with "He Who Dwells in Rock" (Maryshche) to a faraway land with quiet, dark, dead waters with mute, lofty mountains, where neither trees nor grass arouse dreams and thoughts that do not let one sleep, "*stronghold of gloom and peace*" (Act II), where neither wind rushes flying in, singing about freedom, nor lightning gets in, and where no fires burn, "in the rock, / *In depths profound, in blackness, damp and cold*" (Act III). Mavka deliberately goes to the Netherworld as a "she-Faust", she makes a pact with the devil for peace and oblivion, that practically stands for "spiritual suicide" *(Ibidem: 273)* but it will be "the only meltdown on her spiritual path" *(Ibidem: 276)*. Unlike Enkidu, Mavka doesn't pray to higher forces, she wakes up by a distorted, drawn-out, wild howling voice and with "*ardent pity*" wreaks a miracle – "*like subterranean fire*" splits the cave and frees herself, and gives life to her dumb lips (Act III).

In Enkidu's last dream (Table 7), "*the heavens thundered, the earth gave echo*", and he was standing between them, when a grim man with eagle's wings and lion's claws seized by Enkidu's hair and after struggling overpowered Enkidu and crushed him underfoot with all his might (Mavka fought against Maryshche psychologically, although she actually fought against herself at that moment). Enkidu called Gilgamesh for help, but he was afraid of that man and failed to help (Mavka with "*expiring hope*" after the words "*No, I'm alive! I'll live eternally! / I have that in my heart which cannot die!*" went to meet Lukash, who came out of the forest, but he was horrified by Mavka and notably loudly informed his mother about his desire to make proposals for Kylyna. It was the last straw and completely wore Mavka down in her fight with Maryshche. The messenger of the "the house of darkness" ("*seat of Irkalla*") turned Enkidu into a dove and led him to the place that "*none who enters ever leaves*", where there are no paths back, whose "*whose residents are deprived of light*" (Maryshche touches Mavka, who cries and falls into his arms, throws his black robe over her, and both melt into the ground). Enkidu tells whom he saw in the "House of Dust" – the kings, priests, magicians, servants, etc., the queen of the Netherworld Ereshkigal and Belet-eri, the scribe of the Netherworld, who held a tablet and read aloud, them she raised her face, saw Enkidu and said: "*[Who was] it fetched this man here?*". But let's note that the last word, the last decision was up to Mavka, Enkidu had no choice. After Enkidu's death, Gilgamesh made a statue of Enkidu and placed it on a large bed of honor in a silent place.

In "History" Lesia Ukraïnka mentions the treatise "Ishtar's descent into the underworld", and we can find the description of the underworld there and see that it correlates to Enkidu's version of the Netherworld in his last dream: "*This is a dwelling where one can enter but can't leave, where one can descend but can't return, this is a dungeon, where for a hunger there is only dust, where instead of food there is swamp, where no light is visible, where one has to live in darkness, where shadows, like birds, throng the vaults*" *(Ukraïnka, 2021, vol.10: 263)*. The author also describes in detail the funeral rites of the Oriental peoples, in particular the Egyptian pyramids and the city of the dead necropolis, and also mentions Anubis, the deity-jackal, a psychopomp, and tomb guarder *(Ibidem: 156–157)*. It is no coincidence that Lukash's, the werewolf, howling, like no other, urges the way through stone walls of Mavka's oblivion (interestingly, if we read the name "Lukash" backwards, we get "shakul" (from persian šägāl, from oldind. śṛgālá – "the one who howls")).

The author in "History" also notes that among the ancient Semitic peoples there was no distinction between the righteous and the sinners, because the reward for good deeds and the punishment for evil is carried out on earth, it indicates that these peoples had a little developed belief in life after death *(Ibidem: 264)*. All the creatures of the forest are afraid of "He Who Dwells in Rock" (let's remember Rusalka's horror in the Prologue), regardless of the way of life

and the number of "good deeds". Although according to Dharma Shastra of Manu, described in detail in "History", the soul can pass, depending on its righteousness, either "*into a clean creature*" or "*into an unclean one*". For example, a jackal was considered to be an unclean animal, therefore, "*transition into the body of a jackal was considered to be a punishment for sins*" *(Ibidem, c. 78)*. So, it is now becoming apparent that such a punishment for Lukash as turning him into a werewolf (jackal) wasn't eventual. In the chapter on Aryans, Lesia Ukraïnka describes in detail their belief that the human soul is immortal, and that they "*burned the dead on a pyre, then took the bones and buried them in the ground*" *(Ibidem, c. 67)*. Mavka's staying in the Maryshche's cave and burning of Mavka, the willow, by Perelesnyk – the Sphinxlike and Phoenixlike Mavks's deaths – also looks like a contrast between Egyptian-Semitic and Aryan philosophy and burial culture. That is why Mavka's final monologue seems so similar to the Vedic "funeral hymns" translated by Lesia Ukraïnka in "History", in particular the one dedicated to Agni, the deity of fire.

5. Conclusions

The words of Dmytro Dontsov about the death and immortality of Lesia Ukraïnka sound in unison with Mavka's path, since, in his opinion, the poetess herself didn't die of tuberculosis, but of "that inner fire that drove her to an action, that was still impossible at the time, – this small woman with the soul of a chained Prometheus. She died an early death, because people, who live so intensively, live a little. Her voice was not heard during her life and she was frighteningly lonely in it... But like many other tragic figures, she has triumphed over death" *(Dontsov, 1922: 35)*. So, we have deal with eternal masterpieces with the everlasting and endless process of reinterpretation and multitude of representations. It is possible that "Lisova Pisnia" along with other contributing factors had an "Ashurbanipal effect" on writers and other intellectuals of different generations, but this is already the subject of further Lesia Ukraïnka studies.

References

1. Dhorme, P. (1907). *Choix de textes réligieux assyro-babyloniens, Paris.*
2. Dontsov, D. (1922). *Poetka ukrainskoho Risordzhimenta (Lesia Ukrainka) [The Poetess of The Ukrainian Risorgimento (Lesia Ukraïnka)]. Lviv. [In Ukrainian].*
3. Gressmann, H. (1909). *Altorientalische Texte zum Alten Testament. Leipzig.*
4. Gressmann, H., Ungnad, A. (1911). *Das Gilgamesch-Epos, Gôttingen.*
5. Jensen, P. (1900). *Assyrisch-babylonische Mythen und Epen. «Keilinschriftliche Bibliothek». Berlin.*
6. Maspero, G. (1878). *Histoire ancienne des peuples de l'Orient, Paris.*
7. Menard, L. (1882). *Histoire des peuples anciens de l'Orient, Paris.*
8. *Spirit of Flame: A Collection of the Works of Lesya Ukrainka, trans. Percival Cundy, New York 1950.*
9. *The Epic of Gilgamesh. (2000). A New Translation, trans. with an introduction by Andrew George, Rutherford.*
10. Ukrainka, L. (2021). *Povne akademichne zibrannia tvoriv: u 14 tomakh. Tom 10. "Starodavnia istoriia skhidnikh narodiv". Konspekty. Vypysky z knyh. Notatky ta inshe [Complete Academical Edition in 14 Volumes. Volume 10. The Ancient History of the Oriental Peoples. Abstracts. Extracts from books. Notes, etc.] Lutsk. [In Ukrainian].*

11. Ukrainka, L. (2021). Povne akademichne zibrannia tvoriv: u 14 tomakh. Tom 14. Lysty (1907–1913) [Complete Academical Edition in 14 Volumes. Volum 14. Letters (1907–1913)]. Lutsk. [In Ukrainian].

12. Ukrainka, L. (1918). Starodavnia istoriia skhidnykh narodiv [The Ancient History of the Oriental Peoples]. VFirst edition by Olha Kosach-Kryvyniuk. Katerynislav: I. Vysman i I. Mordkhilevych. [In Ukrainia].

13. Zabuzhko, O. (2007). Notre Dame d'Ukrnaine: Ukrainka v konflikti mifolohi [Notre Dame d'Ukraine: Ukraïnka in the Conflict of Mythologies]. Kyiv. [In Ukrainia].

THE ART OF WAR POETRY: PRECEDENT PHENOMENA AS TRANSMITTERS OF HISTORICAL AND COLLECTIVE MEMORY IN PAVLO VYSHEBABA'S POETRY

Olga Virnyk

Ph.D., Assistant at the Department of Turkology, Educational and Scientific Institute of Philology of Taras Shevchenko National University of Kyiv, Ukraine; Bursa Technical University, Turkey e-mail: olgavirnyk@gmail.com, orcid.org/0000-0002-7676-6497

Summary

War poetry, beyond its significant self-descriptive component, aims to capture the memory of events, diverse individuals, and comrades, and convey the truth about the war to the broader public. As a result, realistic narrative often prevails over artistic fiction. Truthfulness, historical accuracy, and the clear prioritization in the fight against Russian aggression transform the narratives of war poetry into a crucial element of information warfare.

This study explores the role of precedent phenomena as significant transmitters of historical and collective memory within the war poetry of Ukrainian poet Pavlo Vyshebaba. Through a close analysis of Vyshebaba's work, the article examines how references to notable figures and events function not merely as literary devices but as powerful tools for embedding cultural memory and national identity. This exploration situates Vyshebaba's poetry within a broader framework of cultural semiotics, demonstrating how historical allusions foster a shared consciousness, reinforce collective resilience, and contribute to the evolving narrative of Ukrainian identity amidst contemporary challenges.

Key words: war poetry, precedent phenomena, historical and collective memory, modern Ukrainian military poetry, Ukrainian poet, P. Vyshebaba.

1. Introduction

War represents an extreme experience that is challenging to articulate. However, since ancient times, attempts have been made to comprehend it not only through documentary genres but also in artistic literature, particularly poetry. Poets often think in terms that directly appeal to eternity, referencing the historical and cultural memory of their people. They integrate their personal experiences with archetypes and the valuable legacy of previous generations, blending historical reflections with visions of the future, as well as values and ideas highlighted by tumultuous events. By interpreting recent or distant past events, writers functionally transform them into acts of the present, emphasizing historical experiences that must be preserved and passed on to future generations.

The development of foreign language competence, overcoming language barriers, broadening horizons, intercultural interaction, and deep understanding of cultural products are impossible without the knowledge of precedent phenomena, which play a significant role among the primary components of the cognitive base. The significance of precedent phenomena is emphasized by their role in preserving and transmitting cultural values and traditions. They function as bridges between generations, ensuring the continuity of shared knowledge and cultural identity within a linguistic community. The transmission of precedent phenomena

from one generation to the next becomes a key mechanism for maintaining cultural unity and collective memory.

The theoretical framework for this study is grounded in works from the fields of psycholinguistics, research focused on the specifics of proper names (O. Yu. Karpenko, et al.), studies on precedent phenomena and names (T. Yu. Kalchenko, V. V. Koroleva, R. S. Chornovol-Tkachenko, O. O. Selivanova, L. P. Yuldasheva, et al.), as well as research on the Turkish language (O. A. Virnyk, I. L. Pokrovska). The study also draws on scholarly investigations in historical and collective memory (A. Assmann, J. Assmann, M. Gibernau, A. Lyagusha) and literary studies (C. Kempf, C. Forche, N. Holovchenko, et al.).

In the context of the Russo-Ukrainian war, which began in 2014 with the annexation of Crimea and escalated into a full-scale conflict in February 2022, the comprehension and memorialization of war experiences are also reflected in various interdisciplinary studies.

The object of this research is precedent phenomena (PF) within the poetry of P. Vyshebaba. **The subject** of the study focuses on the semantic and functional regularities of using precedent phenomena in poetry to preserve and transmit historical and collective memory.

Theoretical Significance. The theoretical significance lies in expanding academic discussions about the essence of precedent phenomena, their key features, classifications, and role in the recovery and preservation of historical and collective memory. The research aims to foster a better understanding of Ukraine on the international stage through literary translations and the development of a glossary based on analyzed precedent phenomena in poetry. **The practical value** of this work involves the publication of poetic translations of Ukrainian war poetry into English and Turkish, enriching European literature with relevant, sensitive, and inspiring texts by resilient Ukrainian poets.

The objective of the study is to identify and analyze precedent phenomena in the poetry of P. Vyshebaba from the point of view of their transmission of historical and collective memory and the experience of war.

Main Objectives: examine theoretical foundations, analyze the concepts of "precedence" and "intertextuality", investigate how poetic texts interact with other literary and historical sources, identify and analyze the precedent phenomena employed in poetry to preserve and transmit the collective memory of war. Examine the social role of poetry in shaping and preserving collective memory, its impact on public opinion, and its contribution to the formation of national identity.

To explore the complex role of poetry in reflecting and shaping historical and collective memory of war, and to analyze precedent names, the study employs a **combination of methodologies**: **Literary Analysis**: Includes textual and intertextual analyses to examine the use and significance of precedent phenomena within poetic texts; **Historical Contextual Analysis**: Contextualization and comparative analysis to explore how historical conditions shape poetic narratives and the use of precedent names; **Cultural Analysis**: Uses an anthropological approach to study cultural codes, traditions, and symbols, and analyze cultural narratives within the poetry; **Sociological Analysis**: Investigates the role of poetry in society, its impact on public opinion, and its influence on the formation of national identity.

Research Material. The study material includes poetry collection of Ukrainian poet Pavlo Vyshebaba.

2. Precedent phenomena as the consequence of the interrelationship of the national cognitive base, language and culture

Despite different approaches to the phenomenon of precedence, in all cases it involves an appeal to the cultural memory of society. Every individual, as a member of a certain society

(family, religious, professional, etc.), shares knowledge, perceptions, and value orientations with other members of that society; they are members of a linguistic and cultural community, which possesses a certain set of "cultural objects" and their symbols common to all its members; and they are representatives of humanity, sharing knowledge and perceptions common to all people.

The main components of the knowledge and perceptions core shared by members of a linguistic and cultural community are recognized as precedent phenomena (PF) in modern linguistics. Precedent phenomena can be texts, names (PN), or expressions of any length (from a word / aphorism to an epic). According to O. Selivanova, precedent phenomena are "components of a conceptual system, the designation and content of which are well known to representatives of a certain ethno-cultural community, are significant and are used cognitively and communicatively" *(Selivanova, 2008)*. The sum of the meanings of words that are components of a precedent phenomenon is not identical to its meaning, since the precedent expression itself is included in the cognitive base, repeatedly reproduced in native speech.

In modern linguistics, there is no single view on the relationship between precedent and intertextuality. R. Chornovol-Tkachenko believes that the realization of intertextuality as a text-creative category is made possible by the existence of precedent texts as systemic units of the thesaurus of the linguistic and cultural community, which have a socially determined significance for its members, who actualize certain aspects of the precedent of such texts in recipient texts *(Chornovol-Tkachenko, 2007)*. In Western European and American linguistics, the concept of precedent is not used at all, instead tangential concepts are used (fixed expressions, allusions, idiomatic phrases, idioms, quotes, etc.) *(Bohdanova, 2016)*.

The precedent phenomenon is a vivid manifestation of intertextuality, the mandatory features of which are encyclopedia and recognizability. Precedent phenomena play an important role in the verbalization of significant elements of life and the actualization of cultural memory. In fiction, they occupy a special place, as they influence the formation of the reader's picture of the world, the emotional perception of the work. Creating numerous associations with the help of allusions to events, facts, characters of other texts, precedent phenomena present historical and cultural knowledge about the world *(Shytyk, Yuldasheva, 2023)*.

3. A New Language of Memorialization

Contemporary theorists of memory studies point to the direct connection between memory and identity. Jan Assmann characterizes memory as "knowledge with an index of identity," meaning knowledge about oneself and one's diachronic identity as an individual and as a member of a family, generation, community, nation, or cultural and religious tradition *(Assman, 2008)*. Aleida Assmann argues that a society's active functional memory ("canon") defines and maintains the cultural identity of a group. Due to limited space, everything that enters active memory undergoes a strict selection process ("canonization"). She identifies three spheres of active cultural memory: religion, art, and history. In discussing history, Assmann emphasizes that nation-states produce narrative versions of their past that serve as collective autobiographies. This national history is taught in textbooks and presented publicly through monuments and commemorative dates. Thus, national memory is fostered through knowledge of key historical events, familiarity with national symbols, and connection with significant dates *(Assman, 2008)*.

Montserrat Guibernau further details the relationship between national identity and collective memory, identifying five dimensions of national identity: psychological, cultural, territorial, historical, and political. The sense of kinship, central to the psychological dimension, is

not created by factual history alone, but by history as perceived or felt, which forms an emotional connection to ancestors and significant or tragic past events. The assimilation of national culture through the transmission of values, customs, traditions, rituals, language, and practices is essential to the formation of national identity. Moreover, the idea of a longstanding existence of a nation and its culture, constructed within collective memory, legitimizes this identity. Therefore, the selective remembrance of a heroic past and the crafting of a specific image of the nation form the main tasks of national history *(Gibernau, 2012)*.

Barbara Szacka emphasizes that collective memory on a societal level supports group identity in three ways: as an awareness of a shared past, as a psychological bond uniting group members, and as a set of symbols. Collective memory encompasses the shared perceptions within a community about its past, including significant figures and events, as well as methods of memorializing and recounting this history. In other words, it involves all conscious references to the past that are present in the community's current life. Barbara Szacka considers "myth" an interdependent concept to "collective memory," or rather, she prefers to discuss the mythologization of the past. The key difference lies in the nature of these concepts: the reality of myth is sacred, whereas collective memory grows out of everyday life.

According to Szacka, collective memory, which spans events across several generations, consists of three elements. The first is an individual's memory of their own experiences of the past. The second is the memory of shared experiences within a group, upon which a collectively agreed-upon language for recounting these experiences is built. The third element is the officially represented image of the past within a culture *(Szacka, 2011)*.

Precedent theory, rooted in intertextuality as a means of preserving culturally significant information, captures both cultural and historical-literary memory.

 Cultural memory is a reference point of our identity, a compass that shapes us as a community that is capable of struggle and survival, preservation and development, creativity and weakness. It is a framework that shapes the relationship between the past and the present to build a path to the future. Working with cultural memory allows us to explain why, how and to what extent we remember something, and leave something outside the common memory space. It is this process that forms a collective identity *(Lyagusha, 2024)*.

Cultural memory serves as an overarching concept under which all other types of memory and ways of remembering exist. The term was coined by German researcher, historian, and philosopher Jan Assmann, who described two types or modes of memory: communicative memory – living memory passed down for three or a maximum of four generations – and cultural memory, which can enter archives and become part of cultural memory *(Assman, 2008)*.

Historical memory comprises pre-scientific, scientific, quasi-scientific, and non-scientific knowledge and collective representations of a society's shared past. It is one dimension of individual and collective memory of the historical past or, rather, its symbolic representation. The reconstruction of a society's history is impossible without historical memory, which is the inheritance of past experience embodied in relevant cultural forms (traditions, monuments, memoirs, etc.) and exists as a form of historical consciousness. One expression of this memory includes the recollections of those who witnessed historical events, whether through oral accounts or written testimonies. Memory, consciousness, and history are interconnected and interdependent. The primary function of historical memory is to transmit knowledge and experience of the past as the basis for self-identification.

In Ukraine, after Russia's full-scale invasion, academic institutions and civic organizations focused on memory, history, and culture not only continued but increased their activity. Programs like "Future of Heritage: History, Cultural Studies, Literature" at the Ukrainian

Catholic University or "Memory Studies and Public History" at the Kyiv School of Economics have become hubs where memory studies discourse is not only formally examined but developed into a completely new quality of understanding, critique, and creation of memorial culture.

4. Pavlo Vyshebaba – is a father, a soldier and a war poet

Pavlo Vyshebaba is a writer, soldier, musician, and environmental activist, who serves as a chronicler of his time. After the onset of the full-scale invasion, he joined the ranks of the 68th Separate Jager Brigade. In 2022, he published a poetry collection titled *Just Don't Write to Me About the War*, which was reissued twice within a year. The first print run of 15,000 copies sold out within 15 days in December 2022. The second, expanded edition was published in February 2023. Over four weeks, P. Vyshebaba's book was ranked among the top 20 most popular books in Ukraine's largest bookstore chain, "Knyharnya Ye," holding the top spot for four weeks. He was listed among the top five most popular military figures by Forbes Ukraine. His author channel received the YouTube Silver Play Button.

Vyshebaba's poem "To My Daughter" and the short story "Martians" were included in the Ukrainian literature curriculum for general and secondary education institutions.

We would like to add into this research Vyshebaba's poem "To My Daughter" in the *original* and in English and Turkish translations (translated by O. Virnyk):

Тільки не пиши мені про війну,
розкажи, чи є біля тебе сад,
чи ти чуєш коників і цикад,
і чи повзають равлики по в'юну.

Як у тих далеких від нас краях,
називають люди своїх котів?
Те, чого найбільше би я хотів,
щоб не було суму в твоїх рядках.

Чи цвіте там вишня та абрикос?
І якщо подарують тобі букет,
не розказуй, як бігла ти від ракет,
розкажи, як добре нам тут жилось.

Запроси в Україну до нас гостей,
всіх, кого зустрінеш на чужині,
ми покажемо кожному по війні,
як ми вдячні за спокій своїх дітей.

Just don't write to me about the war,
Tell me if there's a garden near you,
If you can hear the crickets and cicadas, a few,
And upon Morning-glories do the snails crawl?

In those lands far away from us, in thousands of miles,
How do people name their cats?
What I wish more than the rest,
Is that there's no sadness in your lines.

Do cherry and apricot trees bloom there?
And if someone gives you a bouquet,
Don't tell how you ran from rocket,
Tell them how well we lived here.

Invite guests to Ukraine, please,
Everyone you meet in a foreign land,
We will show to everyone after the war is end,
How grateful we are for our children's peace.

Bana sadece savaş hakkında yazma sen,
Yanında bahçe var mı, anlat bunu,
Çekirgelerin, cırcır böceklerinin sesini duyuyor musun,
Ve salyangozlar sürünüyor mu sarmal çiçekler üzerinde?

Bizden uzak o diyarlarda,
İnsanlar ne isim verir kedilerine?
En çok istediğim şey ise,
Hüzün olmaması satırlarında.

Orada kiraz ve kayısı ağaçları çiçek açıyor mu, evlat?
Ve eğer sana verirlerse bir buket,
Anlatma nasıl seni öldürecekti o kadar çok roket,
Burada ne kadar güzel yaşadığımızı anlat.

Ukrayna'ya misafirleri davet et,
Gurbet ellerde karşılaştığın herkesi,
Herkese göstereceğiz savaş sonrası,
Çocuklarımızın huzuru için ne kadar doluyor kalplerimizi minnet.

5. Analysis of PF in the works of poet

Pavlo Vyshebaba has mentioned that "*Poetry explains our feelings – shows what we feel, being right here, on the front line. It is very important now because everyone reads poetry – both those Ukrainians abroad and those who remain in the country*." The issues of personal, generational, and national identity are identified as the leitmotif of Vyshebaba's debut poetry book "Just don't Write to Me about the War" and the choice made by the lyrical hero determines his fate in the time-space of the war, outlined in the lyrics of the rank. It manifests itself in historically specific, literary, cultural, and autobiographical coordinates.

When modelling the image of war, the poet prefers to reflect on the meaning of existence, activates the motif of memory, and plunges into the psychological portrait of the hero. His idiostyle is characterised by biblical reminiscences and allusions, intertextual connections at the level of titles, poetic stylizations (prayer, carol, counting, lullaby ...) *(Halchuk, O., 2023)*.

An important stage in the study of PF is the identification of its source base. In the corpus of precedent phenomena of Pavlo Vyshebaba's poetry, several groups are distinguished by sources of borrowing:

1. Precedential phenomena of literary origin are quite common, because fiction is the main source of their formation. Thus, P. Vyshebaba appeals to well-known poetry of Maksym Rylskyi. "Language": *Ні «парость», ні «солов'їну» – / хмільні сьогодення вірші.* Neither "***sprout***", nor "*nightingale language*" – / intoxicating poems of today.

Also a poem by Vasyl Simonenko "You know that you are a human being": *«Ти знаєш, що ти людина?» – / весь час питала мене. «**Do you know you are human being**?" – /* asked me all the time. *Я знаю, що я людина, – / і мука моя єдина.* I know that I am a human being – / and my torment is the only one.

The lines by Lina Kostenko, "These may not even be poems, but flowers thrown to you," are also reflected in Pavlo Vyshebaba's poetry in the following lines: *І це не вірші, хлопці, це не вірші, а квіти, що вам в кітелі кладу.* And these are not poems, boys, these are not poems, but flowers I place in your military jacket.

The lines *Жоден дублер змінити нас не хотів, / Кожна **Августа** втомилась від наших стансів.* No understudy wanted to change us, / Every ***Augusta*** is tired of our stanzas. – are correlated with "Stances to Augusta" by J. Byron.

Thus, poetry, as the most plastic, dynamic and emotional artistic system, reacted almost instantly to the events that resonated for the history of Ukraine and even highlighted and re-voiced older poetic works.

2. Precedent phenomena of mythological origin. P. Vyshebaba references the hero of the ancient Greek myth *Sisyphus* – a semi-legendary king of the city of Ephyra, condemned by the gods to an eternal punishment for his crimes (he must endlessly roll a heavy stone up a steep hill, performing a futile, grueling, and unending task): *Ти носитимеш камені льоду, новий **Сізіф**, / Іншим шлях розчищай, коли свій віднайти не зміг.* You will carry stones of ice, a new ***Sisyphus,*** / Clear the path for others if you could not find your own.

3. Precedent phenomena of biblical origin represent a significant portion among other types. Parallels with the Bible allow the author to sharply reflect the issues within the work. In particular, the use of such precedent phenomena enables the conveyance of duality, symbolism, and ambiguity within the imagery.

In war poetry, central precedent phenomena are figures like God, the Lord, etc.: *За мить як піти в атаку, ми молимось про спасіння, / якщо **Бог** і є, він носить форму мого*

покоління. A moment before the attack, we pray for salvation, / if **God** exists, He wears the uniform of my generation.

Дай їм, **Боже**, *цю крихту з «навіки віків».* / *Амінь.* Grant them, **Lord**, this crumb of "forever and ever." / Amen.

Отче, *я лише людина, як і ти.* **Father**, I am just a man, like you.

Врятуй наші душі, **Господь**, *врятуй.* Save our souls, **Lord,** save us.

Бог *дав нам війну, щоби нас змішати,* / *щоби ми дізнались про справжню дій-ність.* **God** gave us war to unsettle us, / so that we may learn of true reality.

All things connected to Russia are traditionally associated with such negative characters as Herod: *Хоч* **Ірода** *військо стокриле* / *Ширяє з брудним батогом,* / *Під захистом вищої сили* / *Народ ся рождає, славімо його.* Though **Herod'**s army with wings unclean / soars with a filthy whip, / Under the protection of higher power / A people is born; let us praise Him.

У місті було нас сто тисяч люду, / *Страшніше за сурми* **Страшного суду**, / *За дев'ять кіл пекла, узятих вкупі,* / *Місто-герой? – місто-мученик, Маріуполь.* In the city were we, a hundred thousand souls, / More dreadful than the trumpets of **Judgment Day**, / Than nine circles of hell, all combined, / Hero-city? – city-martyr, Mariupol.

Judgment Day in Christianity, Judaism, and Islam represents the final judgment determining the fate of sinners and the righteous. In popular consciousness, the notion of Judgment Day is associated with unbearable, adverse conditions and circumstances, such as natural disasters, chaos, and turmoil.

For Whom the Bell Tolls is a novel by Ernest Hemingway (1940). This phrase was first used by J. Donne, prompting reflection on the transience of life, this phrase also hints that no one is safe from death and no one knows when death will come for him: *Уночі невідомо* **за ким калатають дзвони**, / *Уночі наші ріки й струмки не такі червоні.* At night, **bells toll for someone** unknown, / At night our rivers and streams are not so red.

4. Precedent phenomena originating from toponyms include the names of cities that have become victims and witnesses to the war crimes of Russian occupiers: *Все, що трапилося в* **Краматорську,** *залишилось там.* All that have happened in **Kramatorsk**, stayed there.

На **Донбасі** *міста не прокинуться від сирени,* / *їх покинули люди, як кров полишає вени.* In **Donbas**, cities won't wake to the sound of sirens, / people have left them as blood leaves veins.

The Donbas is a region in eastern Ukraine that includes the Donetsk and Luhansk oblasts. Known for its vast coal deposits and industrial development, the Donbas has been a vital economic center in Ukraine, especially for heavy industries such as coal mining, metallurgy, and machinery production. Culturally, it is a diverse area with strong Ukrainian and Russian influences, and its identity reflects the complex history and interactions of these communities. Since 2014, when Russian-backed separatists took control of parts of Donetsk and Luhansk following Russia's annexation of Crimea, the Donbas has been at the center of ongoing conflict. In 2022, with Russia's full-scale invasion of Ukraine, the significance of the Donbas has deepened. For Ukrainians, the Donbas is now not just an industrial heartland but also a powerful symbol of sovereignty, resilience, and national unity. The region's defense has become a focal point of Ukrainian resistance, representing a stand against aggression and occupation.

Amid devastating destruction, including the near leveling of Ukrainian cities like Mariupol and the displacement of millions of residents, the Donbas has come to embody the cost of defending Ukrainian identity and sovereignty. It symbolizes both the immense sacrifice made by Ukrainians and the commitment to a free and unified Ukraine.

Український світанок зійде над **Донецьким кряжем***, / хтось із нас неодмінно до ночі в цю землю ляже*. The Ukrainian dawn will rise over the ***Donetsk Ridge***, / and some of us will certainly lie in this soil by nightfall.

The *Donetsk Ridge* is a highland region in eastern Ukraine that stretches through Donetsk and Luhansk oblasts. Geologically, it is part of the larger Ukrainian crystalline shield and is rich in coal and other minerals, which historically made it a key area for mining and industrial activities, especially around the cities of Donetsk and Luhansk. Since the Russian full-scale invasion in 2022, the Donetsk Ridge has taken on even greater symbolic and strategic significance. As a natural elevated terrain, it has become a focal point in the defense and control of eastern Ukraine. The area has seen intense military action as both Ukrainian and Russian forces have vied for control over high ground.

For Ukrainians, the Donetsk Ridge has also become a symbol of resilience and a reminder of the deep connection between the land and its people. Many towns and landscapes around the ridge have endured severe destruction and tragic loss, reinforcing the area's role as a testament to Ukrainian perseverance.

6. Conclusions

The imagery in the poetry collection *"Just Don't Write to Me About the War"* emerges as lived poetics, capturing the experience of war from the perspective of a man, father, public figure, soldier, and "Chaplain." These narratives are marked by autobiographical elements, factual accuracy, and sometimes contain documentary or memoir-like features. Pavlo Vyshebaba's poems preserve a chronicle of events (what is not recorded is forgotten, and to document is to save it in memory, to give it a new resonance, to preserve it eternally), alongside personal insights and reflections that might otherwise be lost within official historical narratives.

The precedent phenomena used by the author serve as a powerful tool for preserving the cultural memory of the ethnic group, reflecting the historical and collective memory of the people and contributing to its further development. Analyzing the source base of these phenomena, particularly those derived from other literary texts, mythology, biblical texts, and city names that have imprinted themselves on public consciousness as heroic cities or cities that suffered under Russian occupation, highlights the social role of poetry in forming and preserving historical and collective memory, its impact on public opinion, and its contribution to the shaping of national identity.

Precedent phenomena play a crucial role in verbalizing significant elements of existence and actualizing cultural memory. In literary works, they hold a special place as they influence the reader's worldview and emotional perception of the text. By creating numerous associations through references to events, facts, and characters from other texts, precedent phenomena convey historical and cultural knowledge about the world.

War poetry plays a crucial role in preserving and transmitting collective memory about events, people, and their experiences, gathering knowledge and experience for future generations. It helps to shape national identity and strengthen a sense of unity among citizens.

The poetry of Ukrainian poets aspires to be part of today's collective consciousness, channeling its energy toward a future where hopes for positive change for the Ukrainian people – both within the country and abroad – come to fruition, along with hopes for peace and universal justice.

References

1. Assmann A. (2008) Canon and Archive. Cultural Memory Studies: An International and Interdisciplinary Handbook / Eds. A. Erll, A. Nünning. Berlin, New York: De Gruyter, 2008, pp. 100-101.

2. Assmann J. (2008) Communicative and Cultural Memory. Cultural Memory Studies: An International and Interdisciplin- ary Handbook / Eds. A. Erll, A. Nünning. Berlin, New York: De Gruyter, 2008, p. 114.

3. Bohdanova, I. V. (2016). Suhestyvnyi potentsial pretsedentnykh odynyts v ukrainskomu mediinomu dyskursi pochatku XXI st. (Suggestion Potential of Precedent Units in Ukrainian Media-Discourse of the Early 21-st Century). Extended abstract of PhD dissertation (Ukrainian language). Vinnytsia, 22 (in Ukr.).

4. Chornovol-Tkachenko, R. S. (2007). Pretsedentnyi tekst yak osnova linhvostylistychnoi realizatsii katehorii intertekstualnosti (na materiali kazok Liuisa Kerrola) (The pre-text as a platform for linguostylistic realization of the category of intertextuality (as based on the tales by Lewis Carroll)). Extended abstract of PhD dissertation (Germanic languages). Kharkiv, 19 (in Ukr.).

5. Forche, C., Wu, D. (2014) Poetry of Witness: The Tradition in English, 1500-2001. N.-Y., 2014. 672 c.

6. Guibernau, M. (2012) The Identity of Nations / trans. from Engl. by P. Tarashchuk. Kyiv: Tempora, 2012. 304 p.

7. Halchuk, O., (2023) Providni motyvy ta obrazy poetychnoyi knyzhky Pavla Vyshebaby «Til'ky ne pyshy meni pro viynu» (The leading motifs and images of the poetry book by Pavlo Vyshebaba "Just Don't Write to Me About the War"). Collection of scientific works (philological sciences)№ 22, 2023 p. P. 15-23. (in Ukr.).

8. Holovchenko, N. I. (2017) Tsya viyna zalyshyla relyefnyy vidbytok soldat·skoho bertsya (This War Has Left a Tangible Imprint of the Soldier's Boot...) [Serhiy Hrydin. Sappers. (2017)]. http://bukvoid.com.ua/reviews/books/2017/06/02/072207.html [Accessed 29.07.2024]. (in Ukr.).

9. Keaney, A., Tuziak, H. "To My Daughter" by Pavlo Vyshebaba. https://nanovic.nd.edu/features/to-my-daughter/ [Accessed 30.10.2024].

10. Kempf, C. (2014) The Art of War Poetry. https://themarginaliareview.com/art-war-poetry-christopher-kempf. [Accessed 30.10.2024].

11. Lyagusha, A. (2024) U nas ye velucezniy ryzyk otrymaty mertvu pamyat pro potochnu viynu (We have a huge risk of getting a dead memory of the current war) https://suspilne.media/culture/723337-anton-lagusa-u-nas-e-veliceznij-rizik-otrimati-mertvu-pamat-pro-potocnu-vijnu/ [Accessed 30.10.2024], (In Ukr.).

12. Lyagusha, A. (2024) Kulturna pamyat: peremohy y dosyahnennya, porazky y travmy (Cultural memory: victories and achievements, defeats and traumas) https://lb.ua/culture/2024/09/14/634616_kulturna_pamyat_peremogi_y.html?fbclid=IwY2xjawFaKzxleHRuA-2FlbQIxMQABHXan8jYleYfrBj55S7gfiwIT-m7v9QaYKRpz4y-JFck5K5syJMJJek32xQ_aem__OGEJBVx8FjvqcCAcvCvdg#m1akicvpqeuavmhxci [Accessed 30.10.2024], (In Ukr.).

13. Méheut, C., Mitiuk, D. (2024) Battle-Hardened Poets Fuel a Literary Revival in Ukraine. https://www.nytimes.com/2024/08/25/world/europe/ukraine-poets-russia-war.html [Accessed 30.10.2024].

14. Pyshnokha, O. A. (2016) Pretsedentni fenomeny u movi turetskoyi poeziyi (Precedent Phenomena in the Language of Turkish Poetry). Scientific Notes of the National University "Ostroh Academy". Series "Philological". Ostroh, 2016. Issue 63. pp. 157-160. (in Ukr.).

15. Pyshnokha, O. A. (2016) Pretsedentni fenomeny u poemi Orhana Seyfi Orhona «Rozpovid pro Charivnu Feyu ta Pastushka» (Precedent Phenomena in the Poem by Orhan S. Orhon "The Tale of the Fairy and the Shepherd"). Problems of Semantics of the Word, Sentence, and Text. Kyiv, 2016. Issue 36. pp. 112-121. (in Ukr.).

16. Pyshnokha, O. A. (2018) Pretsedentni imena v suchasniy turetskiy poeziyi (Precedent Names in Contemporary Turkish Poetry). Transcarpathian Philological Studies. Uzhhorod, 2018. Issue 4. Vol. 2. pp. 56-62 (co-authored with I. L. Pokrovska). (in Ukr.).

17. Pyshnokha, O. A. (2019) Antroponimy yak znachushchi kvanty etnokulturnoyi informatsiyi (na materiali turetskoyi movy). (Anthroponyms as Significant Quanta of Ethnocultural Information (based on the Turkish language)). Scientific Bulletin of the International Humanitarian University. Series: Philological. Odesa, 2019. Issue 39. Vol. 2. pp. 132-135 (co-authored with I. L. Pokrovska). (in Ukr.).

18. Selivanova, O. (2006). Suchasna linhvistyka: terminolohichna entsyklopediia (Modern linguistics: a terminological encyclopedia). Poltava: Dovkillia-K, 716 (in Ukr.).

19. Selivanova, O. (2009). Pretsedentna motyvatsiia nominatyvnykh odynyts (na materiali ukrainskoi movy) (Precedential motivation of nominative units (based on the material of the Ukrainian language)). In: Linhvistychna palitra. Filolohichni studii (Linguistic palette. Philological studies). Kharkiv, 129–139 (in Ukr.).

20. Shatska, B. (2011) Mynule – Pamyat – Mit (The Past – Memory – Myth) / trans. from Polish by O. Herasym; scientific editor A. Pavlyshyn. Chernivtsi: Books – XXI, 2011, pp. 51-52. (in Ukr.).

21. Shytyk, L., Yuldasheva, L. (2023). Pretsedentny fenomeny sychasn'y ukrayinskiy poeziyi pro viynu (Precedent Phenomena in Contemporary Ukrainian War Poetry). URL: file:///C:/Users/olgav/Downloads/12.pdf (in Ukr.).

22. Vyshebaba (website). https://www.vyshebaba.com.ua/virshi-vyshebaba

23. Vyshebaba, P. Ukrainian Writers at War. https://ui.org.ua/en/artists/pavlo-vyshebaba-2/

24. Vyshebaba, P. (2022) Tilky ne pyshy meni pro viynu (Please, do not write to me about the war). Kyiv : One Book publishing house, 2022. 112 p. (in Ukr.).

POTENTIAL IMPACT OF STEAM EDUCATION ON THE OUTCOMES OF MUSIC TEACHER TRAINING

Di Liu

Postgraduate Student, Sumy State Pedagogical University
named after A. S. Makarenko, Ukraine
e-mail: diliu@fizmatsspu.sumy.ua, orcid.org/0009-0007-2323-3826

Summary

The article aims to analyze the potential impact of STEAM education on the outcomes of music teacher training. Based on analysis results STEAM education holds significant potential for transforming the outcomes of music teacher training. STEAM encourages a more holistic approach to teaching and learning by integrating the arts with science and technology. Music teachers benefit from this approach as it fosters creativity, critical thinking, and problem-solving skills, all essential in today's rapidly evolving educational landscape. We showed that STEAM equips future music teachers with the technological proficiency necessary to utilize modern tools and digital platforms, making music education more engaging and relevant to students. The interdisciplinary nature of STEAM encourages collaboration and innovation, enabling teachers to connect music with broader concepts in STEM fields. Practical value of analyzing the potential impact of STEAM education on the outcomes of music teacher training lies in understanding new opportunities for improving their professional competencies: it allows for adapting teaching methods to modern technological trends, which is especially important given the rapid development of digital tools and software. Music teachers can introduce innovative forms of instruction, including interactive platforms for creating, recording, and editing music, thereby increasing student motivation; STEAM fosters the ability to integrate interdisciplinary knowledge, promoting flexible thinking in future teachers. Thus, analyzing the impact of STEAM education enables the development of more effective and relevant training programs for music teachers, enhancing the quality of their teaching and their readiness to meet the challenges of modern education.

Key words: STEAM, music teacher, education, educational technology, music teacher training.

1. Introduction

In the modern educational space, monitoring the development of the latest pedagogical approaches and their impact on the training of specialists is a key task of the scientific community. Currently, scientists have different approaches to solving the current problems of professional training of music teachers. As the analysis of scientific sources shows, its improvement takes place in the following areas: introduction of a comprehensive, integrated, interactive approach to the process of professional training; modernization of the content part of vocational training; taking into account the specifics of music lessons and, accordingly, the peculiarities of the practical activity of a music teacher; study of certain aspects of vocational training.

With the development of IT and the consequences of humanization and humanitarianization of education, one of these promising areas is the direction of STEM *(Semenikhina et*

al., 2022) and STEAM, which is recognized as effective and innovative for developing the educational industry. STEAM (Science, Technology, Engineering, Arts, Mathematics) becomes a methodological approach in education and a guiding principle for forming deep and comprehensive knowledge. Because of this, the question of STEAM education's impact on training a music teacher is especially relevant and potentially effective. At the same time, music as an art has its unique properties and interacts with other branches of knowledge. In STEAM education, music becomes an object of study and a means of achieving a deeper understanding and application of concepts from various fields.

Research on implementing elements of STEAM education is underway in the USA, Canada, Australia, South Korea, Thailand, etc., which is confirmed by several scientific and pedagogical studies related to STEAM from H. Baba, W. Loh, M. Albahar, Y. Jia, B. Zhou, X. Zeng, D. Jantassova, D. Churchill, Y. Hu, Q. Jiang, M. Meletiou-Mavrotheris, E. Paparistodemou and others.

Ability to attach the "art" element in the abbreviation STEAM, as evidenced by the analysis of the experience of implementing STEAM education, are quite colorful, and they are spreading along with the advancement of students at the main levels of education. The experience of English researchers is interesting, noting that in kindergartens and junior grades, such a branch of physics as acoustics can serve as an element that combines STEM and STEAM. According to the researchers, acoustics is ideal for STEAM because it is closely related to one of the branches of art – music. This idea is described in more detail as the Acoustics Research Group's experience of collaboration (learning) at Brigham Young University (BYU) with primary school teachers who have successfully combined art and reading activities over time *(Goates et al., 2017)*. In Chicago *(2011)*, the "Scientists for Tomorrow – SfT" initiative was supported, which focused on the use of STEAM-based curricula and is a partnership for higher education institutions, out-of-school organizations, and non-formal education providers *(Caplan, 2017)*.

A report by the U.S. Board of Education defines STEAM education as an approach to learning that teaches students to demonstrate innovative and critical thinking and creative problem-solving at the intersection of disciplines. STEAM education develops students ' creative problem-solving skills by using the arts as an instructional approach for experiential and inquiry-based learning. It provides them with numerous opportunities to engage in the creative process and achieve goals in all subject areas *(Dell'Erba, 2019)*.

J. S. Miller, Es Reggiivale, realizing that positive change can only be achieved through the integration of the arts with science, technology, engineering, and mathematics, notes that the implementation of the STEAM approach can enrich and bring to a new level its predecessor – STEM *(Ejiwale, 2013)*. S. Serenko *(2021)* notes that the introduction of STEAM education in the study of music helps to expand the horizons of learning, develop creativity, and stimulate interest in students' learning. STEAM education can make learning music more interesting, effective, and relevant to today's world. Implementing STEAM education can take various forms, including projects, laboratory work, theatrical performances, workshops, and other forms of active learning. Teachers become facilitators, facilitating learning and using knowledge in practical tasks *(Kuzmenko, 2023)*. Compared to traditional education, the STEAM approach is considered more adaptable to the needs of modern society and the economy, as it considers the need to develop creative and technological skills for success in the world. It is designed to form learners who can work effectively in a rapidly changing environment.

The article aims to analyze the potential impact of STEAM education on the outcomes of music teacher training.

2. Research methods

To determine the potential impact of STEAM education on the results of music teacher training, theoretical methods of scientific knowledge were used: analysis of scientific publications and their systematization and generalization, as well as comparison and abstract modeling to identify possible influences within their professional training.

3. Results

STEAM education in the study of music disciplines can be an interesting and productive way to develop student's knowledge and skills. Based on the analysis and systematization of existing practices, we believe that STEAM elements can be included in the study of music (Table 1).

Table 1

Examples of STEAM in the study of music

STEAM Element	Use Case
Music Technology	− Using digital music instruments and software to create and record music.
	− Teaching students how to use audio editing and processing apps.
	− Using virtual instruments and applications for the creative performance of music.
Music Engineering	− Developing and constructing your own musical instruments or devices.
	− The study of acoustic principles and their use in the musical effects' creation.
Art Integration	− Creation of visual art projects that accompany the music performance.
	− Organization of exhibitions of musical and artistic works of students.
Sound Design Projects	− Creating soundtracks for movies, plays, or other events.
	− Learning the basics of sound design and its impact on the perception of visual materials.
Learning the Mathematical Aspects of Music	− Analysis of rhythms, tempos, and meters as mathematical concepts in music.
	− Using mathematical models to create and understand musical structures.
Theatrical performances and musical performances	− Creating musical performances and theatrical performances based on stories, songs, or life situations.
	− Involving students in creating scenography, costumes, and other aspects of the performance.
Collaboration with other subjects	− Organization of joint projects with physics (acoustic phenomena), computer science (programming of musical applications), mathematics (music theory), and other STEAM subjects.
Gaming aspects	− Using slate and games to teach musical terms, sheet music, etc.
	− Creating music bands or projects to create music together.

Music, as the art of sound, has many aspects that can be successfully integrated into STEAM education. Music stimulates students' creativity and emotional development. By experimenting with sounds, they develop their musical style and express their own emotions through the creation of music. In addition, music provides a unique opportunity to learn mathematical and physical concepts. Learning rhythms and tempos allows students to immerse themselves in mathematics by understanding musical structures. The study of the physical aspects of acoustics reveals the mysteries of sound and waves that underlie musical phenomena.

In STEAM education, music is a medium for learning about technology. The digital tools used, such as music creation and editing software, allow students to master modern technologies and develop digital culture skills. Thus, music (or musical art), an integral part of STEAM education, interacts with its other components (science, technology, engineering, art, and mathematics), complementing and enriching learning in these fields. Fig. 1 shows the key aspects of how music interacts with each of the components of STEAM.

(Science)	• The study of music allows you to understand the principles of acoustics and sound creation. This leads to the study of physical principles related to sound.
(Technology)	• Students can learn and use digital technologies to create music using audio and video editors, virtual instruments, and special applications.
(Engineering)	• Studying music can stimulate interest in developing new musical instruments or sound systems, which promotes engineering creativity.
(Art)	• Music integrates with art through expression, allowing for creative syntheses between music, painting, sculpture and other art forms.
(Mathematics)	• The study of rhythm and meter in music includes mathematical concepts, which develops students' horizons, their perception of mathematics through various aspects of musical performance.

**Fig. 1. Key Aspects of Music Interaction with Each
of the STEAM Education Components**

Considering the subject of our research, we will additionally present the main characteristics of STEAM education that correlate with the components of music teachers' information and digital culture (Fig. 2; *Liu, 2024*).

– Integration of subjects – STEAM goes beyond the traditional segregated study of disciplines, facilitating their joint study in the context of real-world tasks.

– Active learning is using active methods where students are involved in practical projects, research, and creative tasks.

– Problem-based learning – the students solve real-world problems, which allows them to put what they have learned into practice.
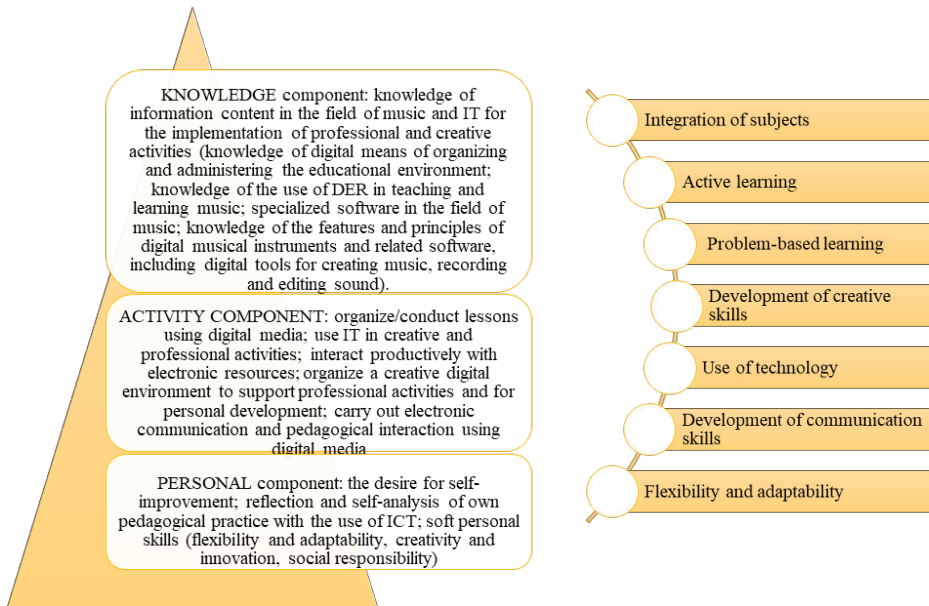
**Fig. 2. Components of the Music Teacher's IDC
and the Main Characteristics of STEAM Education**

– Creative Skills Development – there is a focus on developing creativity, innovative thinking, and ingenuity.

– Use of technology – the widespread use of ICT to support learning and the creative process.

– Development of communication skills – working together, discussing, and presenting projects develop communication skills.

– Flexibility and adaptability – adapting learning to individual students' needs and learning styles.

Based on the analysis results, we say STEAM education holds significant potential for transforming the outcomes of music teacher training. STEAM encourages a more holistic approach to teaching and learning by integrating the arts with science and technology. Music teachers benefit from this approach as it fosters creativity, critical thinking, and problem-solving skills, all essential in today's rapidly evolving educational landscape. STEAM equips future music teachers with the technological proficiency necessary to utilize modern tools and digital platforms, making music education more engaging and relevant to students. The interdisciplinary nature of STEAM encourages collaboration and innovation, enabling teachers to connect music with broader concepts in STEM fields.

4. Discussion

The results obtained expand the possibilities of purposeful creation of links between school and social practice, between the educational process and the whole world from the point of view of the development of children's abilities and the important benefits of STEAM

education (STEM approach in education): accumulation of ideas, exchange of opinions, inclinations, mentality, creation of a single information and educational space with the ability to search and create contacts by skills, organization of gradual learning that unfolds over time, emphasis on the integration of key disciplines.

Researchers, in particular *(Andriievska & Bilousova, 2017)* there are three main ways to implement STEAM education:

− STEAM projects are based on real problems, the solution of which requires integrating knowledge from different fields of study. The results are published online or presented in competitions and contests. This is the most common form of STEAM education in foreign school practice.

− STEAM classes are essentially smaller versions of STEAM projects. A characteristic feature of STEAM classes is that parts of such lessons are strictly structured, and limited in time. At the same time, such lessons are limited by the number of academic disciplines that can be used in solving problems.

− Maker space is a space where students can develop their abilities, show their talents and talents in a particular activity, realize their creative potential, communicate with like-minded people, test their abilities, and test their ideas, without worrying that the next step may turn out to be wrong. In innovative educational practices abroad, maker spaces are characterized as spaces with special equipment (e.g., tools for working with cardboard and wood, sewing tools, 3D printers, and Lego Education sets). It is during the work in the maker space that new project ideas are "born", which are implemented in STEAM projects and STEAM lessons.

According to J. According to Yackman, an American expert in the integration of arts and STEAM education, the acronym STEAM reflects how all the subject topics relate to each other and the real world. The author points out that the letter "A" denotes a broad art, a discipline that goes far beyond one of the branches of art. The letter "A" organizes the relationship between all the humanities disciplines formally classified as different arts, humanities, language sciences, social sciences, disciplines that help to understand which ideas have practical applications and which do not, and all the major arts, each of which stimulates the development of STEM disciplines *(Yakman, 2016)*.

S. Riley defines STEAM as a comprehensive educational approach to learning that uses science, technology, engineering, art, and mathematics as "access points" to guide student research through dialogue and critical thinking skills (Institute for Arts Integration and STEAM: Arts integration and STEAM). V. Andrievska and L. Bilousova *(2017)* believe that the main idea of STEAM education is that educational and cognitive processes are based on an interdisciplinary approach to the study of specific problem situations in real life. In *(Andrievska, 2017)*, STEAM education is interpreted as a creative space for a child's worldview, in which he or she fully realizes his or her needs. Therefore, all activities aimed at the implementation of STEAM education are designed to promote the development of the individual as a creator, and project activities in this regard are one of the most promising. Unlike the organization of the traditional educational process, STEAM projects bring students closer to reality and reduce the gap between theoretical problem-solving and practical implementation of the knowledge gained.

STEAM education creates stable logical connections between disciplines that help students look at the world globally and notice patterns and similarities in different fields of activity. To be a successful specialist, you must combine and develop the skills of an inventor, scientist, manager, psychologist, etc. To solve a specific problem, students focus on intelligence and ingenuity *(Dell'Erba, 2019)*.

The STEAM approach destroys the notion of a "technical" and "humanitarian" mindset. The original goal of STEAM education was to popularize learning in the scientific field. Currently, STEAM curricula are being developed that support humanities research through sciences and mathematics. The development of the educational sector is not limited to digital technologies, as it includes teacher training programs in various fields (not just one subject).

Boychuk V.M., Umanets V.O., and Fu G. also describe the relationship of music with other components of STEAM education *(Boychuk et al., 2021)*. The authors point out that music uses the physical principles of sound; thus, it is related to the natural sciences. Musicians can create, record, and play sound, reflecting its relationship to technology. Music is related to engineering and can be used to make musical instruments and systems. It is also associated with mathematics using mathematical concepts such as harmony, melody, and rhythm. Thus, the authors point out that music bridges the different components of STEAM education, promoting the integration of knowledge and the development of a wide range of skills.

The positive impact of STEAM on the training of music teachers is confirmed by the results of research by scientists L. Aristova, O. Gorozhankina, E. Provorova, Z. Ozera, and R. Demirbatyr, G. Ramsay, C. Aguilar and L. Richerme, J. S. Miller. Dong, K. Choi, A. Milne, A. Calihanna, and others.

L. Aristova, O. Gorozhankina, E. Provorova, R. Lotsman, and D. Levitt provide specific examples of how STEAM education can be useful for the training of music teachers *(Provorova et al., 2023)*:

− STEAM education can help music teachers better understand how music interacts with other areas of knowledge. For example, teachers may study the physics of sound to understand better how musical instruments create sound, or they may study the history of technology to understand how technology has influenced the development of music.

− STEAM education can help music teachers use technology to create more effective and engaging lessons. For example, teachers may use technology to record or make music, or they may use digital technology to create interactive assignments and learning materials.

− STEAM education can help music teachers develop students' critical thinking, creativity, and innovation. For example, teachers can use STEAM projects to help students solve problems, experiment with new ideas, and create original pieces of music.

5. Conclusions

STEAM (Science, Technology, Engineering, Arts, and Mathematics) education has several advantages that make it relevant for the modern training of a future music teacher. Firstly, STEAM promotes the development of critical thinking, creativity, and innovation, which are essential for the successful professional activity of a music teacher. Secondly, STEAM education helps to develop the universal skills necessary for success in various areas of life. Thirdly, STEAM education is based on an interdisciplinary approach, which is needed to solve complex problems of the modern world. Our conclusions are confirmed by the review of scientific papers on the training of future music teachers, which demonstrates the connections and mutual influence of STEAM-oriented professional training on the development of information and digital culture of future music teachers.

We see new opportunities for improving their professional competencies. It allows for adapting teaching methods to modern technological trends, which is especially important

given the rapid development of digital tools and software. Music teachers who employ STEAM approaches can introduce innovative forms of instruction, including interactive platforms for creating, recording, and editing music, thereby increasing student motivation. Also, STEAM fosters the ability to integrate interdisciplinary knowledge, promoting flexible thinking in future music teachers. That helps them more effectively solve educational tasks and organize creative projects. Thus, analyzing the impact of STEAM education enables the development of more effective and relevant training programs for music teachers, enhancing the quality of their teaching and their readiness to meet the challenges of modern education.

References

1. Andrievska, V.M. (2017). The project as a means of implementing STEAM education in elementary school. Scientific Bulletin of Uzhhorod University. Series: "Pedagogy. Social work", 2 (41), 11-14.
2. Andriievska, V., I. & Bilousova, L. (2017). BYOD Concept As A Tool Of STEAM Education Implementation. Physical and Mathematical Education, 4(14), 13-17.
3. Boychuk, V.M., Umanets, V.O., & Fu, H. (2021). Training of future teachers of artistic disciplines with the help of innovative technologies in education. Open educational e-environment of modern University, 10, 33-42.
4. Caplan M. Scientists for tomorrow — A self-sustained initiative to promote STEM in out-of-school time frameworks in under-served community-based organizations: Evaluation and lessons learned. ASEE Annual Conference and Exposition (24—28 June 2017). Columbus, Ohio, 2017.
5. Dell'Erba, M. (2019). Policy Considerations for STEAM Education. Education Commission of the States. Arts Education Partnership. Policy Brief. URL: https://www.ecs.org/wp-content/uploads/Policy-Considerationsfor-STEAM-Education.pdf.
6. Ejiwale, J. (2013). Barriers to successful implementation of STEM education. Journal of Education and Learning, 7 (2), 63–74.
7. Goates C. B., Whiting J. K., Berardi M. L., Gee K. L., Neilsen T. B. The sound of STEAM : Acoustics as the bridge between the arts and STEM. Journal 172nd Meeting of the Acoustical Society of America. 2017.
8. Institute for Arts Integration and STEAM: Arts integration and STEAM. Quick resource pack. URL: https://educationcloset.com/what-is-steam-education-ink-12-schools/
9. Kuzmenko, N. Ya. (2023). STEAM-approach in art classes. Art and education, 4 (110), 12–17. https://doi.org/10.32405/2308-8885-2023-4(110)-12-16.
10. Liu, D. (2024). Information and Digital Culture of a Music Teacher: Terminological Analysis. Academic Visions, 35. URL: https://academy-vision.org/index.php/av/article/view/1368.
11. Provorova, Ye., Arystova, L., Gorozhankina, O., Lotsman, R., & Lievit, D. (2023). Implementation of Steam Technologies for Building Digital Competence of Future Music Art Teachers. Revista De La Universidad Del Zulia, 14(41), 300-318. https://doi.org/10.46925//rdluz.41.15.
12. Semenikhina O., Yurchenko K., Shamonia V., Khvorostina Y., Yurchenko A. STEM-Education and Features of its Implementation in Ukraine and the World. Paper presented at the 2022 45th Jubilee International Convention on Information, Communication and Electronic Technology, MIPRO 2022 – Proceedings, 2022. Pp. 690-695. https://doi.org/10.23919/MIPRO55190.2022.9803620.

13. Serenko, S. (2021). Musical art and digital challenges of today. Modern scientific research: achievements, innovations and development prospects, Riga, Latvia, October 1-2, 56-58.

14. STEM approach in education. URL: https://www.youtube.com/watch?v=QIzQpPNp-JmU.

15. Yakman, G. (2016). What is the point of STE@M? – A Brief Overview. URL: https:// steamedu.com/wp-content/uploads/2016/01/What_is_the_Point_of_STEAM_A_Brief_ Overv.pdf.

PEDAGOGICAL CONDITIONS OF FORMING SCHOOLCHILDREN'S AESTHETICS THROUGH DANCE

Artem Yurchenko

Ph.D., Assistant Professor, Sumy State Pedagogical University
named after A. S. Makarenko, Ukrainee-mail: a.yurchenko@fizmatsspu.sumy.ua,
orcid.org/0000-0002-6770-186X

Dongmei Wei

Postgraduate Student, Sumy State Pedagogical University
named after A. S. Makarenko, Ukraine
e-mail: weidongmei@fizmatsspu.sumy.ua, orcid.org/0009-0006-7792-4115

Summary

The paper aims to substantiate the pedagogical conditions for forming schoolchildren's aesthetic taste through dance.

The results are based on the analysis and identified the following pedagogical conditions that ensure the optimization of this pedagogical activity: motiving the heads of dance studios to pedagogical activities that ensure the consistent formation of the aesthetic taste of schoolchildren, through the creation of a positive trusting hedonistically directed aesthetic atmosphere of dance training; enrichment of the aesthetic thesaurus of schoolchildren through video lectures; development of creative abilities of schoolchildren through improvisation, staging dances, and participation in concert activities.

Practical value of the work is manifested in the comprehensive support of students' personal and creative development: a positive atmosphere promotes the emotional involvement of students in the learning process, and increases their interest in dance and aesthetic values; a comfortable environment allows students to express themselves more easily through dance and perceive art more openly; harmonious atmosphere allows students to naturally form aesthetic priorities, understand the beauty of movements and harmony; improvisation and independent dance choreography contribute to the development of individual creative initiative and self-expression, which directly affects aesthetic taste; Participation in concerts allows students to evaluate their own work from the viewer's point of view, receive feedback and thus develop their aesthetic taste in practice; the opportunity to demonstrate their own achievements on stage promotes personal growth, which is an important aspect in the formation of aesthetic culture.

Key words: aesthetic taste, development of aesthetic taste, schoolchildren, pedagogical conditions, dance studios, out-of-school education, upbringing.

1. Introduction

The leading trend of modern education of young people is a harmonious combination of interests: pupils strive for free self-development and preservation of their individuality, a society that ensures the comprehensive development of their personality. It is the state's responsibility to set the task of educating future citizens who can provide it with a worthy place in

the world community *(Feng & Peng, 2024)*. Therefore, today, in the context of changing the conceptual guidelines for the education of young people, there are several trends in ensuring the quality of out-of-school education of pupils:

– humanization of the educational process, which involves the perception of the personality of each pupil as the highest social value of society, setting for the formation of a citizen with high intellectual, spiritual, moral, and physical qualities *(Liu & Zhang, 2021)*;

– strengthening the influence of world and national cultures;

– use of personality-oriented, activity-based, competence-based, cultural, and project-technological approaches in the educational process;

– development of the creative activity of the individual;

– variability of the content of group work as a form of out-of-school education.

In connection with the actualization of the humanistic paradigm of out-of-school education, the essence of which is determined by the very nature of the educational activity, the center of which is the pupil's personality, in out-of-school educational institutions. So, creating a space for implementing each student's ideas, needs, and interests is necessary while adhering to the leading principle of child-centeredness based on implementing innovative educational processes. The content of the guidelines mentioned above of education involves the development of values and attitudes that are formed along with aesthetic taste *(Li & Li, 2016; Zhang, 2019)*. Therefore, the formation of the aesthetic taste of schoolchildren through dance in the conditions of an out-of-school educational institution today is a problem that, to solve, requires the establishment of cause-and-effect relationships and dependencies that determine the pedagogical conditions of this process.

2. Analysis of current research

The formation of schoolchildren's aesthetic taste through dance in an out-of-school educational institution takes place in out-of-school educational activities, allowing the interaction of two parties in a particular educational space where pedagogical conditions are implemented.

We have specified the concepts of "condition" and "pedagogical conditions," focusing on the nature and nature of the problem of musical and aesthetic education. In particular, based on *(Shinkaruk, 2002)*, we have established that the interpretation of the concept of "condition" is generally scientific, and the following provisions can characterize the essence of this concept:

A condition is a set of causes, circumstances, or objects.

This set affects the development, upbringing, and education of the child.

The influence of conditions can accelerate or slow down the development processes, upbringing, and training of the pupil's personality, the dynamics, and the final results of the educational process.

Our research allowed us to discover that the phenomenon of "pedagogical conditions" is considered in the reference literature as the circumstances under which something happens *(Oleksyuk, 2006)*; as necessary circumstances, prerequisites that determine the existence of something *(Zhebrovskyi, 2011)*; and as an essential circumstance that makes possible the realization, creation, or contribution to something *(Bilodid, 1970-1980)*.

The study and analysis of scientific sources give grounds to assert that the concept of "pedagogical conditions" is actively studied by many authors. Generalizing researchers' approaches *(Brazhnich, 2001)* allows us to identify critical concepts when explaining this scientific and pedagogical category: circumstances, conditions, phenomena, factors (factors), ways, imaginary results, directions, and motives. Based on the analysis of different approaches of researchers to the interpretation of the category of "pedagogical conditions," we argue that:

- firstly, pedagogical conditions play a crucial role in the pedagogical system, contributing to its integrity and the overall pedagogical process;

- secondly, pedagogical conditions significantly shape the educational, programmatic methodological, and material-spatial environments, exerting a profound (both positive and negative) influence on the functioning of a specific pedagogical system;

- thirdly, the structure of pedagogical conditions includes both internal (influence on the development of the personal sphere of the subjects of the educational process) and external (formation of the procedural component of the system) elements;

- Fourthly, the implementation of correctly defined pedagogical conditions optimizes the functioning of the pedagogical system.

We are impressed by the opinion of scholars *(Sukhomlinsky, 1975)*, who distinguish several types of pedagogical conditions: the first type is the personal characteristics of pupils that determine the success of their activities. The second type of pedagogical conditions – the immediate circumstances of the implementation of the above process is the classical pedagogical conditions proper: the content and organization of activities; interpersonal relationships, communication in a group; relations between teachers and pupils; adaptation of the individual to the new educational environment; interaction of the academic institution with the environment, etc.

The projection of the circumstances of the educational process in an out-of-school educational institution on the subjective world of the pupil is the second type of pedagogical condition. In solving the problem, we consider the study to be a subjective perception of a teenager's musical activity through folk instrumental performance, characterized by their internal motivation and the system of value orientations of adolescents.

When we talk about pedagogical conditions, we refer to the circumstances that shape the educational process in an out-of-school educational institution. These conditions aim to form pupils, particularly in musical knowledge, skills, and abilities, and to develop their musical culture. The pedagogical conditions significantly influence this culture and their musical and aesthetic education.

Purpose: to substantiate the pedagogical conditions for forming schoolchildren's aesthetic taste through dance.

3. Research methods

Analysis of scientific and pedagogical literature, generalization of practical pedagogical experience of out-of-school educational institutions and their educational potential, analysis of the requirements of normative state documents on education to identify and substantiate pedagogical conditions for the formation of aesthetic taste through dance.

4. Results

Based on the analysis, we have identified the following pedagogical conditions that ensure the optimization of this pedagogical activity:

1. Motiving the heads of dance studios to pedagogical activities that ensure the consistent formation of the aesthetic taste of schoolchildren through the creation of a positively trusting, hedonistically directed aesthetic atmosphere of dance training;

2. Enrichment of the aesthetic thesaurus of schoolchildren through video lectures;

3. Developing the creative abilities of schoolchildren through improvisation, staging dances, and participation in concert activities

Let's justify the feasibility of these conditions.

Motiving the heads of dance studios to pedagogical activities that ensure the consistent formation of the aesthetic taste of schoolchildren through the creation of a positively trusting, hedonistically directed aesthetic atmosphere of dance training.

The most critical priority for organizing educational activities for a children's dance group is the presence of a teacher, teacher-organizer, choreographer, manager, ideological leader, actor, master, or creative solid personality who will determine the pedagogical, social, ideological, and aesthetic vector of the entire creative and artistic life of the choreographic group.

The implementation of this pedagogical condition involves several important aspects:
– continuous professional development;
– access to information resources;
– increasing investment in a dance studio;
– career prospects and public recognition;
– positive feedback;
– cooperation with local cultural organizations;
– freedom of creative expression;
– innovative teaching methods;
– psychological support and comfortable working conditions;
– motivational programs and mentoring.

Above all, the creation of a positive, trusting, hedonistically oriented aesthetic atmosphere of dance training should be based on encouraging open communication with parents and the community so that they can express appreciation and support for educators for their work and partnering with cultural institutions to organize joint events and performances, which increases the prestige of the studio and educators. It is expedient to provide teachers with the opportunity to develop their programs and choreographies that contribute to the development of aesthetic taste in children, the possibility of using new approaches and methods in teaching dance, which can attract children and contribute to the formation of their aesthetic taste. It is also essential to introduce mentoring programs where experienced teachers can share their experiences with younger colleagues, conduct activities to increase motivation, and develop leadership qualities and skills to manage the studio effectively. Adherence to these ideas will contribute to the involvement of heads of dance studios in pedagogical activities, which contribute to the consistent formation of aesthetic taste in schoolchildren and improve the overall quality of education in this area.

Researchers *(Banio-Krajnik, 2022; Miller, 2021; Seibert, 2023)* and others have identified several requirements inherent in a dance teacher, leader, teacher-choreographer. The leader of the children's choreographic group is a teacher, educator, and organizer who is engaged in developing choreographic skills and abilities and forming and educating the child's personality for life in modern society. A children's choreographic group member should be able to develop harmoniously. To carry out such development, the leader, teacher-choreographer must have a specific artistic taste, educate children on the examples of highly artistic examples of choreography, know the methodology of staging work, possess compositional construction, a variety of multi-genre choreographic vocabulary, be musically literate, have elementary knowledge in the field of pedagogy, psychology, medicine, anatomy, history of choreography, painting, literature, others.

The critical task of the teacher of choreography, teacher-choreographer is the constant formation and development of the aesthetic taste of the pupils of the children's choreographic group through their acquaintance with the best examples of world dance art, with the life and

performing and creative activities of leading domestic and foreign choreographers and groups. At the same time, his other task is practice-oriented, which is to teach his pupils to dance, that is, to give the basics of dance art and choreographic knowledge, to instill skills, to develop dance technique, taking into account their age characteristics. Usually, the organizer of the educational activities of the pupils of the children's choreographic group is the teacher (choreographer) of choreographic art as an author/director/tutor/artistic director, a creator who not only composes a new work but also teaches the art of dance to his pupils. That is why he is required to have high culture, a robust system of choreographic knowledge (knowledge of historical, folk, and modern dance, knowledge of the laws of the stage, drama, light, costumes, scenery, as a rule, encyclopedic knowledge), performing and pedagogical skills *(Frizm, 2007)*.

Implementing a positive, trusting atmosphere in dance classes is not just a routine; it's a transformative process. This process effectively affects the creative inventions of schoolchildren and their artistic manifestations, making it impossible for them to become stiff and uncertain. Implementing this condition contributes to the emergence of creative initiative, the activation of artistic potential, and the stimulation of the independence of schoolchildren. A friendly, trusting attitude to the teacher on the part of schoolchildren affects their interest in artistic material and the complex acquisition of aesthetic knowledge. The teacher's efforts to provide a positive atmosphere in the dance lesson contribute to developing the student's aesthetic abilities, artistic capabilities, and needs. Therefore, a sincere, frank, benevolent attitude toward the pupil and the ability to perceive his worldview is necessary to organize a positive atmosphere to understand aesthetic phenomena adequately.

Understanding the learning process is essential in organized communication between those with knowledge and experience in art and those who acquire it. Taking into account the fact that the conditions for the development of education activate the creative manifestations of the younger generation, the originality of positions and preferences in the perception and understanding of works of art, and others, we consider the observance of dialogical relationships between teachers and students to be an essential aspect in the development of our methodology. In this interaction, cognition, awareness, and formation of aesthetic experience take place, which is of social importance and contributes to the effectiveness of educational work. During the subject-subject relationship, the teacher treats the student as a unique individual who can produce aesthetic values. Because of such actions, the specifics of communication differ in considering the independent inventions of schoolchildren. Under such circumstances, the teacher pays great attention to schoolchildren's aesthetic tastes and preferences, making it possible to carry out the educational process on a parity basis. The essence of such interaction lies in the possibility of using evaluative approaches to aesthetic phenomena, exchanging one's positions on musical works, artistic ideas, artistic observations, and others. Thus, the activity of the subject of learning consists of revealing his artistic values, views, aesthetic worldview, worldview, and aesthetic taste.

The process of aesthetic learning, in which both students and the teacher are set up for creativity and work together in this area, is compelling. In inventing new things, joint interaction acts as a productive means for the creative manifestations of students. Under the conditions of artistic-emotional contact, there is such an experience of the emotional-figurative content of works of art, which is determined by the same direction of their "emotional content." The involvement of schoolchildren's artistic initiative in dance training is essential in forming their aesthetic taste. That allows students to express themselves individually while learning dance by interpreting artistic images. The realization of empathy in the experience of artistic images is an essential component of the effectiveness of the formation of aesthetic taste.

Introducing this condition ensures the implementation of independent creative inventions by schoolchildren, which influences the formation of their aesthetic taste. The opinions of schoolchildren, as well as their artistic preferences and preferences, are considered to promote the intersubjective dialogical nature of joint musical and educational activities. Therefore, the features of such interaction between the participants of the educational process are the exchange of positions, opinions, aesthetic assessments, etc. The priority in this process is the artistic experience of both the teacher and the student because there is an exchange of artistic results of their own observations and emotional experiences of images of musical and dance works. In this process, an important role is played by the organization of creative activity, a crucial element without which the process of forming aesthetic taste is impossible. Learning has productive results if both the teacher and the students work together in the artistic and creative fields.

Considering the study's purpose, the role of educators in imparting hedonistic knowledge of art is crucial. This approach will allow students to comprehend their musical capabilities and inclinations better, and educators play a significant part in helping them quickly determine the means of achieving their goals and satisfying their desires and interests, aspirations, and desires. Such a way will allow students to experience the depth of feelings and the range of emotions in studying musical works and make them, if not happy, at least satisfied with the opportunity to improve and assert themselves aesthetically. Given the above, the education of schoolchildren in out-of-school educational institutions on a hedonistic basis should be considered a process of acquiring and enhancing the skills of aesthetic perception and the ability to interpret music, the success of which is ensured by the presence of an indulgent background of students' personal experiences, which is reflected in their satisfaction with dance and aesthetic activities.

Therefore, when implementing this condition, it is essential to provide opportunities for studio managers to participate in training, seminars, master classes, and advanced training courses so that they can improve their pedagogical and choreographic skills, providing access to methodological materials, scientific articles, books and other resources related to pedagogy and aesthetic education through dance. The implementation of this condition includes the provision of opportunities for professional growth, such as leadership positions or the opening of new studios, and the recognition of the achievements of leaders.

Enrichment of the aesthetic thesaurus of schoolchildren through video lectures

Enriching the aesthetic thesaurus of schoolchildren through video lectures is an effective tool for forming aesthetic taste. This is achieved through:

– expanding knowledge about art, exposition to various types of art;
– acquaintance with outstanding artists and their works;
– development of critical thinking and analysis, comparison of styles and genres;
– access to global content and motivation for further learning and development;
– involvement in cultural events.

Video lectures may include reviews of different art forms. It helps students expand their understanding and appreciation of several art forms. Studying art history helps to understand the evolution of aesthetic values and styles and the influence of cultural, social, and political factors on the development of art. Through video lectures, students can learn about the life and work of famous artists, musicians, directors, choreographers, and other artists. It inspires and helps to form critical thinking about different artistic styles and movements. An in-depth analysis of outstanding works of art helps students develop the ability to appreciate technique, style, composition, and expression in art.

Video lectures can include discussing interpreting art, recognizing symbols and metaphors, and understanding the author's intentions. These activities contribute to developing

critical thinking and the ability to express one's opinion reasonably. Acquaintance with different styles and genres helps students appreciate art's diversity and versatility, contributing to the formation of personal aesthetic taste.

With their interactive elements and access to global expertise, video lectures can catalyze independent research. They offer a convenient way for students to learn, allowing them to revisit the material as needed. This flexibility can spark interest in art and aesthetics, leading to further study and independent research. The knowledge gained from video lectures can inspire students to explore museums, exhibitions, concerts, and other cultural events, enriching their aesthetic experience.

Overall, enriching the aesthetic thesaurus through video lectures provides students with knowledge and experience. That contributes to developing their aesthetic taste and critical thinking skills and builds respect and curiosity for various art forms. At the same time, it is essential to consider imagery and emotionality, implying accuracy, conciseness, and emotional-figurative features of the teacher's introductory speech, which should awaken interest in the works; originality and novelty, which enable the teacher to report vivid facts about the creation and performance of works; orientation towards the development of creative capabilities, which occurs along with independent manifestations in the context of aesthetic phenomena.

In the selected condition, the cognitive aspects of the content of dance training are strengthened, and the formation of value judgments, value manifestations, and attitudes to musical and choreographic works based on the information received takes place. All this contributes to the formation of the aesthetic taste of schoolchildren.

Development of creative abilities of schoolchildren through improvisation, staging dances, and participation in concert activities.

Developing students' creative abilities through improvisation, staging dances, and participation in concert activities is a powerful means of forming their aesthetic taste. This process involves:
– freedom of expression and the development of sensitivity to music;
– staging dances as a creative process;
– understanding of aesthetic principles;
– participation in concert activities, cultural exchange, and feedback.

The indisputable specificity of artistic and educational activity is its purposefulness: to achieve specific results in art, to gain creative experience, etc. In addition, schoolchildren's active participation in dance educational activities contributes to the emergence of artistic initiative, the awakening of a psychological mood, and the creation of an attitude to perform creative tasks. On the other hand, the tasks of technical mastery of the dance image should not outweigh the aesthetic dimensions of the dance.

In this condition, the effectiveness of schoolchildren's practical forms of comprehension of dance and musical works is enhanced. During the dance activity, the needs of schoolchildren are formed, the tasks of useful work are formulated, the acquisition and conscious use of useful means of achieving the goal, and the ability to evaluate the results of artistic activity. Abilities, feelings, tastes, and skills are revealed during such activities, and consciousness is formed. Thus, Art and dance practice through improvisation, staging dances, and participation in concert activities is the basis for the formation of the aesthetic taste of schoolchildren. The main features of artistic dance creative work are the perseverance of artistic actions of schoolchildren to acquire artistic knowledge and skills, as well as the formation of aesthetic taste and the sequence of dance activities, which is ensured by systematic actions regarding the mastery of

dance material; activity of schoolchildren, which is characterized by an attentive attitude to art and emotional saturation of dance actions.

Improvisation in dance allows children to express their emotions, feelings, and ideas freely. It helps to develop their creativity and individual style. Improvisation requires children to listen attentively to music and understand its rhythm, melody, and mood, which contributes to developing musical sensitivity and aesthetic perception. The practice of improvisation helps students feel more confident on stage and in life by teaching them to express their thoughts and feelings through movement.

Participation in creating dance compositions develops the ability to plan and organize work and stimulates creative thinking. Students learn to choose music, create choreography, and work with costumes and scenery. In staging dances, children get acquainted with different styles, techniques, and means of expression, which helps them better understand the aesthetic principles of art. Choreographing dances often involves working in groups, which develops the ability to cooperate, take into account the opinions of others, and create something new together.

Participating in concerts and performances on stage is not just about showcasing talent. It's also a valuable opportunity for children to gain experience in public speaking, which contributes to developing self-confidence and the ability to communicate with the audience. Performances at various events provide an opportunity to get acquainted with different cultural traditions, styles, and genres, which expands the aesthetic horizons of schoolchildren. Moreover, feedback from viewers and critics and self-analysis of performances help students develop critical thinking and improve their skills.

5. Conclusions

We consider pedagogical conditions to be one of the components of an out-of-school educational institution's pedagogical system, which affects adolescents' aesthetic education. We have identified and substantiated three pedagogical conditions for the formation of aesthetic taste through dance in the conditions of an out-of-school educational institution: Motiving the heads of dance studios to pedagogical activities that ensure the consistent formation of the aesthetic taste of schoolchildren through the creation of a positively trusting, hedonistically directed aesthetic atmosphere of dance training; Enriching the aesthetic thesaurus of schoolchildren through video lectures; Development of students' creative abilities through improvisation, staging dances, participation in concert activities.

These pedagogical conditions carry out the relationship between schoolchildren's aesthetic taste formation in an out-of-school educational institution and education through dance. The complex pedagogical conditions we describe act as a whole, and their implementation requires the development of an appropriate pedagogical model.

References

1. Banio-Krajnik, A. (2022). Competence and preparation for the profession of a dance teacher in Central Europe in the private sector. Research in Dance Education, 1–13. https://doi.org/10.1080/14647893.2022.2115992.
2. Bilodid, I. K. (ed.). (1970-1980). Dictionary of the Ukrainian language. Academy of Sciences of the Ukrainian SSR Institute of Linguistics. Kyiv: Naukova dumka, 1, 411.
3. Brazhnich, O. G. (2001). Pedagogical conditions of differentiated education of secondary school students: diss. ... candidate ped. of science Kryvyi Rih, 2001.

4. Feng, Y.N., & Peng, J. (2024). Transformación de la introspección educativa: evaluación de la situación actual y el desarrollo de la educación musical básica en China. Trans-Form-Acao, 47(5), e02400169. https://doi.org/10.1590/0101-3173.2024.v47.n5.e02400169.

5. Frizm, P. I. (2007). Choreographic culture as a factor in the creative development of a child's personality: author's abstract. dis... for the acquisition of sciences. stupa Ph.D. art history: special. 17.00.01 "Theory and history of culture". Lviv.

6. Li, F., & Li, X. (2016). Music Education Mode Optimization and Vocal Training System Construction from the Perspective of Cultural and Aesthetic. 3rd International symposium on engineering technology, education and management (ISETEM 2016), 425-430.

7. Liu, S.N., & Zhang, T.T. (2021). Research on cross cultural awareness in the new era of college music teaching from the perspective of ecology. Fresenius environmental bulletin, 30(8), 10353-10360.

8. Miller, Bri M. (2021). Barriers to Dance Education: An Exploration into the Beliefs of Dance Educators and Non-Dance Familiars on Dance and Its Place in the Public-School System. Unpublished Masters of Arts thesis, University of Northern Colorado.

9. Oleksyuk, O. M. (2006). Musical pedagogy. Kyiv: KNUKiM.

10. Seibert, B. (2023). Repeat After Her: There Is No Dance Without Dance Education. The New York Times Company. URL: https://www.nytimes.com/2023/08/08/arts/dance/jody-arnhold-dance-education.html.

11. Shinkaruk, V. I. (ed.). (2002). Philosophical encyclopedic dictionary. Kyiv: Abrys.

12. Sukhomlinsky, V. A. (1975). How to Raise a Real Person. Kyiv: Rad. school.

13. Zhang, HW. (2019). Strategies for Improving Music Appreciation Ability of Non-music Majors. International conference on arts, management, education and innovation (ICAMEI 2019), 827-831. https://doi.org/10.23977/icamei.2019.166.

14. Zhebrovskyi, O. (2011). Extracurricular education in the dimension of the 21st century. Native school, 12, 21-24.

INNOVATION, WORK, SOCIETY

FOREIGN EXPERIENCE OF ENSURING THE ACTIVITIES OF LOCAL SELF-GOVERNMENT BODIES UNDER CONDITIONS OF DECENTRALIZATION IN POLAND

Andriy Basko

Doctor of Philosophy in Law, Doctoral Student, Zaporizhzhya National University, Ukraine
e-mail: 777_av@ukr.net, orcid.org/0009-0007-9858-257X

Summary

The purpose of the research within the scope of the scientific article is to clarify the essence of the model of building a system of local self-government in the Republic of Poland, taking into account the principles of decentralization in view of the use of certain forms of its implementation in Ukraine. To achieve the goal of the research, the following tasks were carried out: clarification of the prerequisites, forms and methods of building a model of the local self-government system in the Republic of Poland, taking into account the observance of the principles of decentralization; carrying out a comparative analysis of the construction of this model in Poland and Ukraine; identifying effective forms of implementation of the principles of decentralization of the model of local self-government in Poland and forecasting the possibility of their implementation in the process of local self-government reform in Ukraine.

As a result of the study, it was established that the Polish system of local self-government is characterized by the presence of such a specific mechanism of delegation of power, such as their transfer between local self-government bodies of different levels. Within the framework of this mechanism, the powers of the self-governing bodies of the voivodship can be delegated to the relevant district bodies if necessary. It has been proven that this type of delegation of powers is a completely natural continuation of the principle of subsidiarity, as it is applied in the case when a certain administrative authority is legally assigned to a local self-government body of one level, but can be most effectively implemented by a local self-government body of another level - both higher and lower Ukrainian legislation does not allow such delegation of powers between local self-government bodies of different levels at all. That is why one of the measures of the decentralization reform in Ukraine should be the enshrining in the Law "On Local Self-Government in Ukraine" or in the prospective Municipal Code of Ukraine the provision that local self-government bodies can enter into administrative agreements with each other on the delegation of power and the transfer of necessary for them implementation of financial and (or) material and technical resources.

Key words: local self-government bodies, reforming local self-government bodies, decentralization, Polish experience, implementation of Polish experience in reforming the local self-government system.

1. Introduction

In recent years, Poland has traditionally acted as a lawyer for Ukraine in the European community and a kind of locomotive of the European integration aspirations of our country, at the level of political, public and scientific communications, it actively offers to use its experience in the modernization and democratization of the state, legal and socio-economic system, in particular in relation to the reform of the system of local municipality. The Polish model of local self-government reform, together with the German and French models, is a certain reference point for the reform of the local self-government system in Ukraine, because being close territorially and to some extent mentally, it has made significant progress, being similar in view of the closeness of the model of territorial organization of Poland and Ukraine.

In this regard, below to achieve ***the goal of the research*** - to clarify the essence of the model of building a system of local self-government in the Republic of Poland, taking into account the principles of decentralization in view of the use of individual forms of its implementation in Ukraine. Given the purpose of the research, within the scope of the article, we plan to carry out ***the following research tasks:*** clarification of the prerequisites, forms and methods of building a model of the local self-government system in the Republic of Poland, taking into account the observance of the principles of decentralization; carrying out a comparative analysis of the construction of this model in Poland and Ukraine; identifying effective forms of implementation of the principles of decentralization of the model of local self-government in Poland and forecasting the possibility of their implementation in the process of local self-government reform in Ukraine.

Research materials and methods. Based on the defined research subject, we chose a comprehensive approach to the application of scientific research methods. The methodological basis of the research is the dialectical method, the application of which allowed to comprehensively reveal the nature of the "model of building the local self-government system" as an organizational form of implementation of the principles of decentralization. The formal legal method was used to establish the legal basis for the proper functioning of the local self-government system; the application of the formal-logical method became the basis for identifying shortcomings in the national legal regulation and finding ways to overcome them.

2. Historical prerequisites for reforming local self-government

After the collapse of the USSR and the socialist bloc of Eastern European states, Ukraine and Poland found themselves in practically the same starting conditions with an ineffective planned economy, outdated production, centralized administrative and command management, low income levels and a post-totalitarian legal and political culture. The successful implementation of a number of political, economic and administrative reforms allowed Poland to significantly accelerate the pace of development and become one of the most developed countries in Eastern Europe, to meet the criteria for membership in the European Union and join it in 2004. At the same time, the lack of political will to carry out radical reforms in Ukraine, the non-acceptance of reformist ideas by a significant part of society significantly slowed down the modernization processes of our state, making it a European outsider in many indicators of political and socio-economic development 30 years ago, and only since 2015 decisive changes in the field of decentralization in Ukraine began to take place.

One of the main factors that ensured the rapid development of the Polish state and created the prerequisites for its integration into the European community was the successful

decentralization of state power, the transition from a communist authoritarian system of governance to a modern democratic one, the mental similarity of mass legal awareness, as well as a long common historical past. It is also important that millions of Ukrainian citizens, who in search of income worked at Polish enterprises, are already familiar with Polish models of public administration, primarily local, and therefore will accept the introduction of similar models in Ukraine without much resistance.

3. Characteristic features of the Polish reform of decentralization of local self-government

The characteristic features of the Polish reform of the decentralization of state power in Poland, which ultimately brought it success, are its scientific validity, provision of political support and systematicity, which was manifested in the mutual consistency of its main components - the redistribution of powers, the creation of new local self-government bodies, the revision of administrative - territorial organization, consolidation of territorial communities and ensuring their financial capacity. In addition, the Polish decentralization reform was carried out in clear coordination with measures to reform sectoral public administration in the sphere of budget, finance, education, health care, etc. *(Moroz, O., 2017: 2)*. Approaches to ensuring the scientific validity of the reform of power decentralization in Ukraine and Poland differ significantly. Undoubtedly, in recent years, domestic legal science, as well as the science of public administration, has been significantly enriched by a significant number of scientific studies on the issues of local self-government and decentralization of state power, however, even now there is no single uncontroversial scientific concept of reforming the public administration system, and the vast majority of the opinions expressed by scientists ideas, developed models and projects exist only in the form of monographic or dissertation studies and publications and are not in demand at the highest levels of state power. In terms of providing a scientific basis for the decentralization reform, the Polish experience is fundamentally different from the Ukrainian one.

In particular, at the end of the 80s of the 20th century, when the processes of restoration of democratic Polish statehood were just beginning, on the initiative of the leader of "Solidarity" Lech Wałęsa, the Commission for Local Self-Government Affairs was created, headed by Professor E. Regulski, and the work of this commission included representatives of the Polish Academy of Sciences, Warsaw and Łódź Universities are involved *(Fediaieva, M. S., 2014: 141)*. Subsequently, E. Regulskyi was appointed to the post of Government Commissioner for Territorial Administration Reform, and it was this team of scientists who developed the scientific rationale for the new system of public administration, models of interaction between central and local state authorities and local self-government *(Kaminski, M., 2000: 17)*.

Ukrainian science has no less achievements than Polish science, but its ideas and achievements remain virtually undemanded, primarily due to the lack of institutionalized communication between scientific institutions and state authorities. However, taking into account the positive Polish experience, it is worth creating a Government Commission on Decentralization of State Power and Development of Local Self-Government from among the most authoritative scientists in the field of administrative, constitutional law and public administration, giving its head the status of a government commissioner. Considering the sufficiently large number of domestic scientific developments in this field, the main directions and basic parameters of the reform of the decentralization of power in Ukraine can be developed by such a commission and submitted for consideration by the government and the parliament in an acceptable short time.

The Polish reform of the decentralization of state power is also favorably distinguished by the measuredness and clear sequence of its main stages. The vast majority of scientists distinguish two main stages of decentralization reforms in Poland - from 1989 to 1998 and from 1998 to the present *(Bairak, S., 2013: 256; Vorona, P. V., Drohomyretska, M. I., 2016: 114).* The main direction of the first stage of the reform was the restoration of real local self-government at the basic level of the commune, the transfer of a significant share of power by local self-government bodies, and the formation of the institutional and resource base of local self-government. Also, at this stage, the three-level system of territorial organization (commune, county, voivodeship) was restored. The second stage of the reform was marked by more fundamental changes in the Polish public administration system, in particular, local self-government bodies were created at the county and voivodship levels, and the content of the powers of local executive bodies was revised, as a result of which the voivodships actually completely lost their administrative powers, instead receiving powers to control over the legality of the activities of local self-government bodies. The decentralization of powers made it possible to consolidate public administration bodies at the voivodeship level, which created the prerequisites for revising the territorial system and reducing the number of voivodeships from 49 to 16 *(Vilizhinskyi, V., 2014: 269).*

As noted by M. S. Fedyaeva, such a sequence of stages of the decentralization reform carried out by Poland allowed first to accumulate practical experience in the management of local self-government bodies, and already on the basis of it to consistently introduce new forms and models of public administration at all levels of the territorial system, which ensured compliance interests of citizens and the integration of Poland into the European Union *(Fediaieva, M. S., 2014: 145).* The Polish legislation on local self-government developed in the same way. In particular, the independence of local self-government was restored in the course of democratic transformations in 1989 and recorded in the Law of March 8, 1990 "On Commune Local Self-Government", later the principles of power decentralization and subsidiarity as the basis for determining the powers of local self-government bodies were enshrined in the Constitution of the Republic Poland from April 2, 1997; and only after the mechanisms of functioning of local self-government powers at the basic level were worked out, its development at the level of poviats and voivodships began, accordingly, on 06.05.1998, the Laws "On local self-government of the poviat" and "On local self-government of the voivodship" were adopted *(Hrobova , V.P., 2015: 80).*

4. Ways of reforming the system of local reform in Ukraine, taking into account decentralization

Compared to Poland, the evolution of Ukrainian legislation in the field of activities of local executive bodies and local self-government bodies looked quite illogical and unsystematic: executive bodies of district and regional councils were periodically created and liquidated, representative offices of the President of Ukraine were created and liquidated at the level of districts and regions, local state administration, a draft of amendments to the Constitution of Ukraine was submitted to the Verkhovna Rada of Ukraine for consideration, which provides for their liquidation, but later this draft was withdrawn, the mechanism of relations between local self-government bodies and executive authorities was repeatedly changed, practically every modification of tax and budget legislation leads to a review of powers local self-government bodies, etc. Despite all this, such a model of functioning of local self-government at the basic level of a village, town or city, which would contribute to the formation and sustainable

development of financially and organizationally capable territorial communities, has not yet been formed.

A certain positive step of Ukraine in the direction of solving this problem can be considered the processes of formation of OTG and state assistance in their development, however, the legal support for the operation of OTG is far from ideal, since the Law of Ukraine "On the Voluntary Association of Territorial Communities" emphasizes the procedural issues of the formation of OTG, and not the means of ensuring their capacity. That is why, and based on the Polish experience of reforms, we can conclude that the submission to the Verkhovna Rada of Ukraine of draft No. 4178-a of the Law "On Amendments to the Constitution of Ukraine (Regarding the Powers of State Authorities and Local Self-Government)" was premature, and its recall is correct. In our opinion, first the legislative mechanisms for regulating the activities of local government organizations and ensuring their financial capacity should be worked out, then the mechanisms for transferring a significant share of the powers of local state administrations to the competence of local self-government bodies should be worked out, and only after that it will be possible to revise the existing mechanisms of public management on levels of districts and regions, as well as solving the question of the feasibility and necessity of consolidating districts and regions.

It is worth noting that the Polish experience of consolidating and changing the boundaries of counties and voivodeships can also be effectively used in the course of the reform of the administrative and territorial system of Ukraine. In domestic scientific and journalistic literature, the Polish model of public administration, characterized by the absence of executive power bodies at the district level and the consolidation of voivodships, as a result of which their number decreased by three, is often used as an argument to justify the need for significant consolidation of regions and districts. Indeed, the consolidation of voivodships in Poland, carried out in the 90s of the 20th century, helped to increase the efficiency of public administration, but for an objective assessment of the possibility of implementing similar measures in Ukraine, it is necessary to carry out a quantitative analysis of the composition of the population living within the framework of administrative-territorial units similar levels.

According to the State Statistics Service of Ukraine, in 2018, the population of Ukraine, excluding temporarily occupied territories, was 42.2 million people who lived in 24 oblasts and the city of Kyiv (490 districts). Accordingly, the average population for the region is 1.69 million inhabitants, and for the district - 86 thousand inhabitants. As of 2017, the population of Poland was 38.5 million people living in 16 voivodships (445 urban and rural poviats) *(Sarnetska, Ya. A., 2017: 61),* i.e. the average population of a voivodship is 2.4 million people, and the county - 87 thousand people. As we can see, the average population of a county in Poland is practically the same as the average population of a district in Ukraine, moreover, these indicators of Poland and Ukraine differ little from the average European population of an administrative-territorial unit of the subregional level, which is close to 100,000 inhabitants *(Alforov, S.V., 2013: 49).* On the other hand, the average population of a voivodeship in Poland is almost one and a half times higher than the average population of a region in Ukraine, but this indicator is also quite clearly correlated with the differences in the population density indicators of both states. To date, 490 districts have been liquidated and 136 new districts have been created by Resolution of the Verkhovna Rada of Ukraine dated July 17, 2020 No. 807-IX. The boundaries of districts are established along the outer border of the territories of rural, settlement, and urban territorial communities, which are part of the respective district, and elections of deputies of district councils are not held in liquidated districts. At the same time, the specified haste in the adoption of this document and subsequent elections of local district councils led to the fact that the issue of financing newly formed districts became acute.

In the course of the Polish decentralization reform, there was a radical redistribution of powers between the executive and local self-government bodies, which made it possible to build a system of local self-government truly independent of the state and ensure the maximum implementation of the principle of subsidiarity in relations between them. Decentralization processes in Poland are based on the idea that local self-government bodies solve all tasks of public administration at the local level independently and on their own behalf *(Paliichuk, T. V., 2016: 135).* From an organizational point of view, this was reflected in the fact that at the very beginning of the first stage of the reform (1990), all civil servants became municipal employees, and the bodies of executive power at the commune and county levels ceased to exist. Polish legislation defines the limits of delegated powers of local self-government bodies extremely narrowly: according to Art. 166 of the Constitution of the Republic of Poland, if necessary, the central government can delegate certain powers to local self-government bodies, but such delegation is of an exclusive nature and can be carried out only in the form and manner determined by law *(Boryslavska O., Zaverukha I., Zakharchenko E., 2012).*

Comparing the volume of own and delegated powers of local self-government bodies of Ukraine and Poland and analyzing the overall level of efficiency of their activities, it is possible to conclude that the vast majority of powers defined by the Law of Ukraine "On Local Self-Government in Ukraine" as delegated powers of executive bodies of rural, settlement and city councils (except those related to ensuring the sovereignty, defense capability, internal and external security of Ukraine) to the category of their own powers is supported by the positive practical experience of the functioning of the public administration system of the Republic of Poland.

5. Positive experience of Poland in the field of decentralization
and ways of borrowing it in Ukraine

The reform of decentralization of state power carried out by Poland made it possible to form territorial communities with a sufficient level of financial capacity, and if at the end of the 80s of the 20th century. the Polish and Ukrainian communities were at approximately the same level of material and financial support, now the amount of expenses financed from local budgets per member of the territorial community of Poland exceeds the corresponding indicators of Ukraine by 16 times, and the amount of the share of expenses from local budgets in the consolidated budget Poland's is the highest among all new EU member states, and higher than the corresponding pan-European indicator *(Fediaieva, M. S., 2014: 74-75).* The main basis of this progress of Polish local self-government was broad financial and fiscal decentralization, as well as the transfer to territorial communities of significant amounts of state property and part of the income from state property located on the territory of the respective communities.

The main part of the state property was transferred to the communal ownership of communes at the first stage of the decentralization reform, and now the share of income from the use of such property, including the rent for it, is about 7% of all revenues of local budgets. In addition, 25% of the income from the property remaining in state ownership is directed to the budget of the counties on whose territory it is located. In our opinion, a similar experience of financing local budgets in Poland can be used in Ukraine as well. Regarding similar incomes, Art. 29 of the Budget Code of Ukraine defines a complex and unsystematic list of payments, which in certain proportions is directed to the State Budget, in particular: 37% of the rent for the special use of forest resources in the part of wood harvested in the order of felling for main use, 45% of the rent for the special use of water (except rent for the special use of water of

water bodies of local importance), 70% of the rent for the use of subsoil for the extraction of minerals of national importance; 95% of the rent for the use of subsoil for the extraction of oil, natural gas and gas condensate; 45% of environmental tax, etc., and payments such as rent for the transportation of oil and oil products through main oil pipelines and oil product pipelines on the territory of Ukraine; rent for transit transportation of ammonia through pipelines on the territory of Ukraine; rent for the use of the radio frequency resource of Ukraine; concession payments for state-owned objects and others are fully credited to the State Budget of Ukraine. In our opinion, the introduction of a uniform share of income from state property, which should be directed to local budgets, and proper scientific justification of the size of such a share, based on the Polish model, will contribute not only to increasing the financial capacity of territorial communities, but also to ensuring the transparency of relations related to the disposition of state property property.

The Polish system of local self-government is also characterized by a high level of fiscal decentralization, which is based on the norm of Art. 168 of the Constitution of the Republic of Poland, which defines the right of local self-government subjects to set local taxes and fees within the limits set by law *(Shapoval, V. M., 2018: 58)*. It should be noted that the legislation of the vast majority of countries in the world, including and Ukraine, contains provisions that establish the powers of local self-government bodies or directly territorial communities in the field of establishment and (or) collection of local taxes and fees. Domestic scientists quite rightly point out that Ukrainian tax and budget legislation is highly centralized and does not ensure the financial independence of local self-government bodies, as declared by the EHMS, the Constitution of Ukraine and the Law "On Local Self-Government in Ukraine". At the same time, the decentralization reform carried out by Poland ensured the establishment of real fiscal and budgetary autonomy of local self-government, which not only helped the development of territorial communities, but also led to a decrease in the volume of state subsidies to local budgets. As T. Paliichuk notes, the average indicator of financial security of the exercise of self-governing powers with the funds of local budgets at the commune level is 93%, and at the county level - 79% *(Paliichuk, T. V., 2016: 137)*.

Among the main local taxes and fees, Polish legislation defines personal income tax, inheritance and gift tax, real estate tax, forestry tax, transport tax, dog owner tax, as well as market and administrative fees. The main feature of the mechanism of taxation by local taxes in Poland is that the maximum tax rates are determined by law, local self-government bodies are entrusted with the duty to ensure the correctness of their calculation and complete payment. At the same time, tax legislation does not directly provide for any benefits or zero rates. At the same time, the headmen of the commune (viyts) are given the right to grant tax benefits to its residents, in particular, on real estate, by delaying, paying in installments or canceling tax payments *(Rosoliak, O., Martsiias, I., 2016: 68)*. In this way, the Polish state ensures real fiscal independence of local self-government. Instead, the legislation of Ukraine only declares such independence and is not aimed at ensuring fiscal decentralization.

First, personal income tax, which in Poland and many other states that have success-fully implemented decentralization reforms, is a local tax, according to Art. 9 of the Tax Code of Ukraine is a national tax. In accordance with Articles 29, 64, 66 of the Budget Code of Ukraine, the personal income tax is distributed as follows: 25% is credited to the State Budget of Ukraine, 15% to regional budgets, 60% to district budgets, budgets of cities under oblast control, and OTG. For the city of Kyiv, there are special rules for the distribution of personal income tax, according to which 40% is credited to the budget of the city of Kyiv, and 60% to the State Budget of Ukraine. Attention is drawn to the fact that territorial communities that have

not decided to join the OTG do not receive any personal income tax deductions at all. This situation with the distribution of personal income tax is a clear violation of the principles of justice and equality, since residents of different territorial communities receive a different degree of access to public finances, which depends on whether they have formed an OTG or not, although according to the Law of Ukraine "On Voluntary "unification of territorial communities" such association is a right and not an obligation of communities.

Secondly, the Tax Code of Ukraine establishes an extremely wide list of benefits and exemptions from paying both personal income tax and local taxes, in particular, property tax (land tax and tax on immovable property other than land). In our opinion, there is a direct violation of the right of territorial communities to independently resolve fiscal issues of local importance, since the Verkhovna Rada of Ukraine, establishing in the Tax Code of Ukraine benefits from paying taxes and fees, which should be fully or partially included in local budgets, actually deprives territorial communities the right to receive and dispose of the relevant funds. The solution to this problem can only be a fundamental revision of the tax legislation of Ukraine, which would provide for the transfer of the tax on the income of individuals from the category of state-wide to the category of local taxes, as well as the cancellation of any benefits from local taxes and fees in the Tax Code, with the simultaneous granting of the right to set such benefits to local councils.

6. Conclusions

The Polish system of local self-government is characterized by the presence of such a specific mechanism of delegation of power, such as their transfer between local self-government bodies of different levels. Within the framework of this mechanism, the powers of the self-governing bodies of the voivodship can be delegated to the relevant district bodies if necessary. In our opinion, this type of delegation of powers is a completely natural continuation of the principle of subsidiarity, as it is applied in the case when a certain administrative authority is legally assigned to a local self-government body of one level, but can be most effectively implemented by a local self-government body of another level - both higher and and lower. Ukrainian legislation does not allow such delegation of powers between local self-government bodies of different levels at all. That is why one of the measures of the decentralization reform in Ukraine should be the enshrining in the Law "On Local Self-Government in Ukraine" or in the prospective Municipal Code of Ukraine the provision that local self-government bodies can enter into administrative agreements with each other on the delegation of power and the transfer of necessary for them implementation of financial and (or) material and technical resources.

References

1. Alforov, S. V. (2013) Terytorialna hromada: poniattia, oznaky, problemy funktsionuvannia v Ukraini [Territorial community: concepts, signs, problems of functioning in Ukraine]. Visnyk Universytetu bankivskoi spravy Natsionalnoho banku Ukrainy. № 1 (16). S. 47–50 [in Ukrainian].
2. Baimuratov, M. M. (2014) Detsentralizatsiia povnovazhen publichnoi vlady v Polshchi yak zasib formuvannia kompetentsii mistsevoho samovriaduvannia: dosvid dlia Ukrainy [Decentralization of the powers of public authorities in Poland as a means of forming the competence of local self-government: experience for Ukraine.]. Visnyk Mariupolskoho derzhavnoho universytetu. Seriia: Pravo. Vyp. 7. S. 138–147 [in Ukrainian].

3. Bairak, S. (2013) Mistseve samovriaduvannia Respubliky Polshcha: osoblyvosti stanovlennia ta zasady funktsionuvannia [Local self-government of the Republic of Poland: features of formation and principles of functioning]. Studia politologica Ucraino-Polona. Vyp. 3. S. 255–262 [in Ukrainian].

4. Biudzhetnyi kodeks Ukrainy vid 08.07.2010 r. № 2456-VI [Budget Code of Ukraine]. URL: https://zakon.rada.gov.ua/laws/show/2456-17 (data zvernennia: 30.06.2024) [in Ukrainian].

5. Vilizhinskyi, V. (2014) Reformuvannia systemy mistsevoho samovriaduvannia v Polshchi: dosvid dlia Ukrainy [Reforming the system of local self-government in Poland: experience for Ukraine]. Derzhavne upravlinnia ta mistseve samovriaduvanniaVyp. 2 (21). S. 265–275 [in Ukrainian].

6. Vorona, P. V., Drohomyretska, M. I. (2016) Zarubizhnyi dosvid diialnosti prefektur ta ukrainski realii (uroky dlia Ukrainy) [Foreign experience of activity of prefectures and Ukrainian reality (a lesson for Ukraine).]. Visnyk Natsionalnoi akademii derzhavnoho upravlinnia pry Prezydentovi Ukrainy. № 1. S. 111–118 [in Ukrainian].

7. Derzhavna sluzhba statystyky Ukrainy. Demohrafichna ta sotsialna statystyka: Naselennia ta mihratsiia [State Statistics Service of Ukraine. Demographic and social statistics: Population and migration]. URL: http://www.ukrstat.gov.ua (data zvernennia: 30.06.2024) [in Ukrainian].

8. Detsentralizatsiia publichnoi vlady: dosvid yevropeiskykh krain ta perspektyvy Ukrainy: nauk. vydannia [Decentralization of public power: experience of European countries and prospects of Ukraine: Science. giving]/ Boryslavska O., Zaverukha I., Zakharchenko E., ta in. Kyiv: TOV «Sofiia». 2012. 128 s [in Ukrainian].

9. Detsentralizatsiia ta efektyvne mistseve samovriaduvannia: navchalnyi posibnyk dlia posadovtsiv mistsevykh ta rehionalnykh orhaniv vlady i fakhivtsiv z rozvytku mistsevoho samovriaduvannia [Detsentralizatsiia ta efektyvne mistseve samovriaduvannia: navchalnyi posibnyk dlia posadovtsiv mistsevykh ta rehionalnykh orhaniv vlady i fakhivtsiv z rozvytku mistsevoho samovriaduvannia]. Kyiv: Prohrama rozvytku OON / Munitsypalna prohrama vriaduvannia ta staloho rozvytku. 2007. 269 s. [in Ukrainian]

10. Kaminski, M. (2000) Dosvid provedennia administratyvnoi reformy v Polshchi i mozhlyvosti yoho zastosuvannia v Ukraini [The experience of administrative reform in Poland and the possibility of its application in Ukraine]. Ekonomichnyi chasopys. № 7-8. S. 17–18 [in Ukrainian].

11. Moroz, O. (2017) Dosvid Polshchi v ramkakh reformy detsentralizatsii [Experience of Poland within the framework of decentralization reform]. Mistseve samovriaduvannia. № 11. S. 1–4. URL: https://i.factor.ua/ukr/journals/ms/2017/november/issue-11/article-32049.html (data zvernennia: 30.06.2024) [in Ukrainian].

12. Paliichuk, T. V. (2016) Fiskalna detsentralizatsiia: dosvid Polshchi ta mozhlyvosti yoho vykorystannia v Ukraini [Fiscal decentralization: the experience of Poland and the possibilities of its application in Ukraine.]. Naukovyi visnyk Khersonskoho derzhavnoho universytetu. Seriia: Ekonomichni nauky. Vyp. 18. Ch. 2. S. 134–138 [in Ukrainian].

13. Podatkovyi kodeks Ukrainy vid 02.12.2010 r. № 2755-VI [Tax Code of Ukraine]. URL: https://zakon.rada.gov.ua/laws/show/2755-17#n187 (data zvernennia: 30.06.2024) [in Ukrainian].

14. Pro dobrovilne obiednannia terytorialnykh hromad: Zakon Ukrainy vid 05.02.2015 r. [About the voluntary association of territorial communities] № 157-VIII. URL: http://zakon.rada.gov.ua/laws/show/157-19 (data zvernennia: 30.06.2024) [in Ukrainian].

15. Proekt Zakonu pro vnesennia zmin do Konstytutsii Ukrainy (shchodo povnovazhen orhaniv derzhavnoi vlady ta mistsevoho samovriaduvannia) vid 26.06.2014 r. № 4178-a. [Draft Law on Amendments to the Constitution of Ukraine (regarding the powers of state authorities and

local self-government)] URL: w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=51513 (data zvernennia: 30.06.2024) [in Ukrainian].

16. Rosoliak, O., Martsiias, I. (2016) Finansova detsentralizatsiia: dosvid Polshchi ta realii Ukrainy [Financial decentralization: the experience of Poland and the realities of Ukraine]. Aktualni problemy pravoznavstva. r. Vyp. 2. S. 66–70 [in Ukrainian].

17. Sarnetska, Ya. A. (2017) Dosvid Polshchi u fiskalnii detsentralizatsii ta perspektyvy yoho vykorystannia v Ukraini [Poland's experience in fiscal decentralization and prospects for its implementation in Ukraine]. Biznes Inform. 2017. № 12. S. 60–65 [in Ukrainian].

18. Shapoval, V. M. (2018) Konstytutsiia Polskoi Respubliky (z peredmovoiu Volodymyra Shapovala) [Constitution of the Republic of Poland (with a foreword by Volodymyr Shapoval)]. Kyiv: Moskalenko O. M., 84 s. [in Ukrainian]

19. Fediaieva, M. S. (2014) Otsinka stupenia detsentralizatsii publichnykh vydatkiv u krainakh Yevropeiskoho Soiuzu (na prykladi Polshchi) [Assessment of the degree of decentralization of public expenditures in the countries of the European Union (on the example of Poland)]. Naukovyi visnyk Khersonskoho derzhavnoho universytetu. Seriia: Ekonomichni nauky. Vyp. 6. Ch. 2. S. 72–75 [in Ukrainian].

20. Fediaieva, M. S.(2014) Reformy mistsevoho samovriaduvannia v Polshchi kintsia KhKh st. yak osnova detsentralizatsii upravlinnia v kraini [Reforms of local self-government in Poland at the end of the 20th century. as the basis of decentralization of management in the country]. Visnyk Akademii mytnoi sluzhby Ukrainy. Seriia: «Derzhavne upravlinnia». № 1 (10). S. 139–143 [in Ukrainian].

21. Hrobova, V. P. (2015) Systema mistsevoho samovriaduvannia v Polshchi: perspektyvy vykorystannia dosvidu v Ukraini [The system of local self-government in Poland: prospects for the use of experience in Ukraine]. Naukovyi visnyk Uzhhorodskoho natsionalnoho universytetu. Seriia pravo. Vyp.31. T. 1. S. 79–82 [in Ukrainian].

OPTIMIZATION OF PUBLIC AUTHORITIES FUNCTIONING DURING MARTIAL LAW: CHALLENGES AND SOLUTIONS

Oleksandra Bilotserkivska

Postgraduate Student at the Department of Political Science, Sociology and Cultural Studies,
H. S. Skovoroda Kharkiv National Pedagogical University, Ukraine
e-mail: belotserkovskaya.sasha@gmail.com, orcid.org/0009-0001-1329-9553

Summary

This article focuses on identifying and analyzing the main challenges faced by Ukraine's public institutions under martial law, particularly addressing the balance between temporary concentration of power and state centralization versus preserving democratic principles. Following Russia's full-scale aggression, Ukraine has significantly strengthened its power vertical to ensure effective governance, safeguard sovereignty, and maintain public order. The state's operation under martial law involves restricting certain democratic rights and freedoms, a necessary security measure to protect the nation and its citizens. At the same time, Ukrainians, upholding democracy as a foundational value and as part of their European identity, are critically wary of a possible regression to autocratic governance, thus maintaining close oversight over public institutions even amidst war.

Drawing on S. Neskorodiev's «reverse transition» concept, the author justifies the objective necessity of a temporary shift toward autocracy under martial law as a compelled political-legal solution that allows state mechanisms and society to adapt to the existential challenges posed by war. The article explores the need to balance effective governance with adherence to democratic norms during martial law, highlighting the main challenges for public institutions and suggesting a range of strategic solutions.

Special attention is given to information security, which is critically important in the context of hybrid warfare. Ensuring effective communication between government and citizens, and countering disinformation, are seen as essential for sustaining trust in public institutions. The role of legislative reform, enabling quick adaptation of laws to wartime demands while ensuring transparency and expert consultation to minimize poor decision-making risks, is also discussed. Emphasis is placed on preserving citizens' rights and freedoms, even under an emergency regime, as a crucial element of democratic society that sustains public trust and the legitimacy of government actions. Strategic decisions should guarantee the preservation of democratic institutions, as democratic values are central to Ukraine's national identity. A key factor in supporting the national idea and rebuilding post-war Ukraine as a sovereign, democratic state capable of effectively responding to challenges and recovering after the crisis.

Key words: martial law, public institutions, «reverse transition», power concentration and centralization, democratic oversight.

1. Introduction

The extreme conditions of wartime have marked a unique political test for Ukraine, revealing the institutional apparatus's capacity to ensure effective governance amidst a deep existential crisis. Since February 24, 2022, when Russia launched a new wave of aggression

against Ukraine, the country has been forced to quickly adapt its institutional system, not only to survive but also to strengthen its ability to counter Kremlin aggression. The introduction of martial law across Ukraine, as decreed by President V. Zelensky *(Ukaz Prezydenta Ukrainy, 2022),* has led to significant changes in the functioning of state institutions, which now must make tough decisions driven by the need to protect sovereignty and national security. For Ukrainian democracy, which has systematically pursued a European developmental path since 1991, enduring challenges like the Orange Revolution, the Revolution of Dignity, and resistance against Russian aggression since 2014 (following the annexation of Crimea and parts of the Donetsk and Luhansk regions), the threat of Russia's full-scale invasion represented a new kind of challenge–not only due to the need to confront the enemy in a hybrid war but also because of the justified necessity of temporarily suspending the democratic practices that have been standard for Ukraine in peacetime, in favor of an intensified centralization of power, which is more characteristic of autocratic regimes.

O. Kosilova and I. Fedirko note that political rights and freedoms are the foundation of a democratic society, and their restriction is permissible only in exceptional cases when it comes to protecting national security and public order: «The realization of political rights and freedoms» is a crucial aspect of democracy, as it enables citizens to express their views, influence political decisions, and hold the government accountable. The restriction and violation of political rights and freedoms signify an authoritarian and totalitarian state regime (except in legally defined and normatively specified cases in the interests of national security and public order). The value of political rights and freedoms lies in allowing citizens to be active participants in socio-political life and ensuring the protection of their individual rights. These rights are fundamental to any society aspiring to democratic status» *(Kosilova, Fedirko, 2024).* However, it is precisely on these legal grounds that the Ukrainian state has had to impose limitations on the democratic rights and freedoms of citizens, as noted in Point 3 of the Presidential Decree «On the Introduction of Martial Law in Ukraine»: «In connection with the imposition of martial law in Ukraine, the constitutional rights and freedoms of individuals and citizens provided in Articles 30–34, 38, 39, 41–44, 53 of the Constitution of Ukraine, as well as the rights and legitimate interests of legal entities, may be temporarily restricted within the scope necessary for implementing measures under the legal regime of martial law as outlined in Article 8, paragraph 1, of the Law of Ukraine «On the legal regime of martial law» *(Ukaz Prezydenta Ukrainy, 2022).*

According to the Law of Ukraine «On the legal regime of martial law» this regime grants the necessary powers to the relevant state authorities, military command, military administrations, and local self-government bodies to avert threats, repel armed aggression, and ensure national security, as well as temporary restrictions on the constitutional rights and freedoms of individuals and citizens and the rights and legitimate interests of legal entities, specifying the duration of these restrictions *(Pro pravovyi rezhym voiennoho stanu, 2015).*

Such measures include increased administrative pressure by state institutions, as well as the use of coercive instruments aimed at ensuring citizen compliance with strategic decisions, such as national security and territorial integrity protection, public order maintenance, mobilization of economic and social resources for effective defense and state sustainability, effective coordination between authorities and security forces to respond promptly to challenges, control over the information space to minimize internal and external threats, and more.

Therefore, a key challenge for Ukraine under martial law is to maintain a balance between the temporary strengthening of the power vertical and preserving democratic values, which Ukrainians recognize as the foundation of their European identity. Under these circumstances, S. Neskorodiev proposes the scientific concept of «reverse transition» (analogous to

the «democratic transition,» or the shift from totalitarian-authoritarian governance forms to democratic ones), arguing that this will allow for an academic analysis of the shift from democratic forms of public governance to authoritarian ones: «It is reasonable to introduce a new concept – the reverse transition, which the governance system undergoes in a crisis period of military conflict. The reverse transitional shift is a move from democratic forms of public governance to authoritarian forms under controlled circumstances». *(Neskorodiev, 2022, p. 51).*

2. «Reverse transition» or main challenges for public authorities under martial law

For a modern democratic state facing unprovoked military aggression aimed at undermining its sovereignty, this existential crisis demands immediate response and strategic decision-making. This approach aligns with M. Dillon's concept: «There is no security without the state; there is no state without ensuring security». *(Dillon, 2013, p. 222).* In other words, during a crisis, there is a universal trend observable across all political systems: stable and flexible systems adapt quickly, aiding in their preservation, while unstable and fragile systems are generally destined for collapse.

Researchers like P. DiMaggio, O. Donnell, H. Linz, S.M. Lipset, D. North, M. Olson, W. Rostow, T. Skocpol, A. Stepan, S. Huntington, O. Schlumberger, and others propose various approaches to studying political system transformations, emphasizing the necessity for adaptation to radical changes characteristic of the contemporary world. At the same time, they highlight that during such periods, states may find themselves trapped in a «gray zone» between authoritarianism and democracy. Political systems unable to handle crises are more prone to revert toward autocracy *(Schlumberger, 2015).*

The authors of *The Logic of Political Survival*, B.B. de Mesquita, A. Smith, R.M. Sieverson, and J.D. Morrow, explore how war impacts political stability and the survival ability of states, political leaders, and societies in times of crisis. They argue that a political system's capacity to adapt is critical for the survival of both democratic and authoritarian regimes. Political leaders must actively respond to external threats, such as military dangers, economic crises, and international pressure, by implementing changes that ensure stability and prevent systemic collapse *(De Mesquita, Smith, …, 2005).*

Large-scale and prolonged crises, like war and the necessity of establishing martial law, expose weaknesses in public administration mechanisms and in the ability of political leaders to respond effectively to these challenges. Such resilience is a decisive factor for maintaining regime stability and legitimacy. Successful adaptation not only helps to retain power but also strengthens public trust, ensuring the long-term stability of the system and preserving the democratic development trajectory. Consequently, researchers conclude that the survival of political systems and their leaders depends on the ability to swiftly adapt to changes, meet the needs of the state and society, and effectively counter crisis challenges *(De Mesquita, Smith, et al., 2005).*

Given the contemporary trends of crisis escalation, continued scholarly examination of these challenges, especially in the context of 21st-century hybrid threats, is essential. Accordingly, considering the specifics of martial law in Ukraine and the need for rapid adaptation by public institutions, it is appropriate to outline the main challenges these institutions face in such critical conditions.

Concentration of power and centralization of governance. In the context of a full-scale military invasion, implementing martial law becomes an obligation for the ruling elite and a critical requirement for safeguarding the state and its citizens. Exceptional circumstances of war justify the concentration of power and centralized governance, as decision-making speed

is crucial for security and enables better coordination across all levels of state administration in times of crisis *(Nordlinger, 1981)*.

However, this concentration of power must be accompanied by mechanisms of oversight and limitation to avoid the risks of autocracy. At the onset of Russia's full-scale aggression, Ukrainian society, recognizing the fundamental importance of democratic principles, accepted the necessity of increased centralization and the temporary limitation of democratic rights and freedoms. These measures were considered essential to ensure national security and enhance decision-making efficiency in emergency conditions. Yet, Ukrainians remain critically aware of public institutions' actions, stressing the need for oversight and adherence to democratic ideals *(Stohova, 2024)*.

The expansion of executive powers for public institutions during a crisis can lead to excessive power concentration, weakening the checks and balances vital for a democratic state. In *How Democracies Die*, S. Levitsky and D. Ziblatt (2018) analyze how democracies can gradually degrade into authoritarianism when key institutions, such as the executive branch, begin to centralize power, disregarding checks, and balances principles. Therefore, in crisis situations–such as the declaration of martial law–the risk of state institutions becoming excessively powerful becomes particularly relevant. Aware that the existential struggle against Russian aggression is not only about protecting territorial integrity but also about ensuring democratic development, Ukrainians seek to maintain a balance between executive efficiency and democratic accountability.

Ensuring the effectiveness of management decisions. Martial law demands swift and decisive management decisions, often limiting opportunities for public discussions, expert involvement, and outcome forecasting. This urgency can create risks of short-term decision-making that may not fully account for long-term consequences. For Ukrainian society, one of the most pressing and sensitive issues has been decisions on population evacuation or the establishment of temporary resettlement centers. These measures have saved thousands of lives but have often overlooked long-term needs, such as securing permanent housing and employment.

Legislative reform and adaptation. In wartime, the need for rapid legislative changes to adapt to new conditions becomes critical. In Ukraine, laws have been enacted, for example, to seize assets linked to the aggressor state and to impose harsher penalties for collaboration. However, it is crucial to ensure these changes comply with fundamental legal principles and avoid violating citizens' constitutional rights. Additionally, legal adaptations must remain flexible to enable a return to more democratic norms after the war, facilitating a smooth transition to peacetime governance, particularly in areas like the economy and social welfare.

Observance of citizens' rights and freedoms. Under martial law, restrictions on citizens' rights, such as freedom of movement and the right to protest, are common practices aimed at maintaining security. For instance, curfews and movement restrictions in frontline areas have been implemented in Ukraine to reduce the risk of terrorist acts and preserve public order. However, it is essential that such restrictions remain proportional and temporary, and that the government ensures effective mechanisms to protect the rights of individuals who may disagree with these measures. During evacuations, for example, while population control is necessary, there must be clear mechanisms to protect the rights of individuals who might decline to evacuate for personal reasons.

Information security and communication. Amidst Russian aggression, protecting the information space and combating disinformation are of critical importance. Ukraine faces constant information attacks aimed at undermining trust in the government and the military. Public institutions, such as the Ministry of Digital Transformation, are actively blocking hostile

resources, running information campaigns to counter falsehoods, and creating unified platforms like «Diia» for official information and services. However, ensuring transparency in communication also requires effective interaction with the media and civil society to prevent distrust arising from limited information flow.

Operating under resource constraints. Martial law places immense pressure on the financial and material resources of the state, necessitating efficient optimization. Ukraine faces considerable defense expenditures, often resulting in the reallocation of funds from social programs. For instance, increased defense sector funding requires cuts in other areas, such as healthcare and education, creating challenges for public authorities in maintaining essential services. Organizing humanitarian aid and securing international support become crucial tools for mitigating resource shortages, but also require robust management to prevent corruption and misuse.

The outlined challenges highlight the high level of flexibility, responsiveness, and effective interaction required from Ukraine's public institutions both within government structures and with society. This will help maintain a balance between centralized power and adherence to democratic norms, preventing a shift toward authoritarianism. Preserving democracy, even in the face of war, remains vital since democratic values are deeply embedded in Ukraine's national identity. Ukrainians view democracy not only as a model of governance but also as a foundation for their existence and freedom. Sustaining democratic institutions, even under martial law, is essential to ensure that Ukraine can return to normalcy with respect for human rights and rule of law after the war, securing government legitimacy and the further development of society. Ultimately, democracy is not only an institutional arrangement but a collective social choice that defines our identity, distinguishes us from the aggressor, and reinforces the strength of our national spirit.

3. Strategies to enhance the effectiveness and stability of public institutions during wartime

Table 1

Building Resilient Public Institutions in Wartime: Challenges and Solutions

Primary challenges to the functioning of public institutions under martial law	Strategic solutions to increase the effectiveness and stability of public snstitutions during wartime
− *Concentration of power and centralization of governance* During martial law, the powers of executive bodies expand, leading to a strengthening of the power vertical. This can risk excessive power concentration in the hands of certain individuals or institutions, which may limit the checks and balances crucial to democracies. At the same time, centralization is necessary for rapid decision-making, especially in crisis situations, but it can reduce civil society participation in governance and disrupt the balance among the executive, legislative, and judicial branches, significantly impacting democratic freedoms.	− **Balancing centralization and democratic oversight** *Flexible centralization* involves creating management centralization mechanisms that enable a swift crisis response while ensuring democratic oversight by engaging parliamentary and civic institutions in supervising the executive. A clearly defined, regulated, and temporary nature of centralized powers is essential, meaning power concentration must be time-limited, with clear mechanisms for returning to democratic procedures after martial law ends. It is necessary to enshrine the obligation in law to restore the balance of power among branches of government after stabilization and to reinstate all rights and freedoms that form the basis of democratic standards.

Continuation of table 1

− *Ensuring the effectiveness of management decisions*	− *Enhancing management efficiency*
Effective public administration during martial law requires prompt decision-making, which may limit opportunities for discussion and consultation with specialists and the public. The high uncertainty of wartime conditions complicates strategic planning and demands flexibility and adaptability from management structures to respond to rapidly changing circumstances.	*Institutional adaptation* involves reforming executive structures to improve flexibility and crisis adaptability. Specifically, developing rapid-response scenarios and crisis management teams with clear functions. Digital transformation of governance is crucial, with continued investment in digital technology development to accelerate decision-making processes and information exchange across management levels.
− *Legislative reform and adaptation*	− *Updating the legislative framework*
Public institutions face the need for rapid legislative changes that address new wartime challenges. However, this creates a risk of enacting hasty or poorly crafted regulations that may conflict with democratic principles and the rule of law.	*Adaptation of legislation* involves the prompt development and implementation of legislative changes that meet the needs of martial law, while ensuring transparency and engaging expert communities to minimize the risks of poor or unfinished decision-making. *Temporary norms* should be introduced, applicable only during martial law, with a mandatory and clearly defined mechanism for returning to the previous legislative framework after the crisis ends.
− *Observance of citizens' rights and freedoms*	− *Protection of citizens' rights and freedoms*
Martial law entails temporary restrictions on citizens' constitutional rights and freedoms, including freedom of speech, assembly, and movement. The challenge lies in ensuring these restrictions do not become excessive or violate the principles of the rule of law.	*Minimizing restrictions on rights* involves avoiding excessive limitations on citizens' rights and freedoms even during martial law, with an emphasis on the temporary nature of such measures. Clear mechanisms must be established to control rights restrictions to prevent abuses by authorities. *Strengthening human rights institutions* is essential to ensure the effective functioning of the ombudsman, judiciary, and civil oversight institutions, which monitor the protection of rights and freedoms during states of emergency.
− *Information security and communication*	− *Ensuring information security and transparency*
The role of information warfare and the need for protection against propaganda and disinformation are significantly heightened in times of war. Public institutions must ensure effective communication with the public and international partners, providing timely, reliable information and coordinating efforts to counter information threats. At the same time, maintaining citizens' trust in public institutions may be challenging due to stringent measures, such as censorship or restricted access to information.	*Strategic communication* requires establishing an effective system of strategic communication with citizens that promptly informs them of the situation and government decisions. This reduces the room for disinformation and enhances trust in the government. *Protection against disinformation* should include implementing mechanisms to counter information attacks while ensuring transparency in government actions and preserving access to independent sources of information.

Continuation of table 1

− *Operating under resource constraints*	− *Resource mobilization and rational management*
Wartime significantly limits access to resources: human, financial, and material. Public institutions must adapt their strategies to provide a minimum level of services and support infrastructure functioning. A key challenge is mobilizing resources for defense while maintaining the functioning of critical infrastructure, including humanitarian assistance and social support for the population.	*Resource optimization* requires setting clear priorities for distributing limited resources during wartime, including implementing savings programs and efficient budget management to ensure the state's most essential functions. *Mobilizing additional resources* through increased international support, including financial and humanitarian resources, and utilizing internal reserves through public initiatives and volunteer movements.

4. Conclusions

The strategic solutions proposed here highlight that ensuring stability and effectiveness of public institutions under martial law necessitates a comprehensive approach that combines centralization and power concentration with democratic oversight, legislative adaptation, and enhanced management processes.

Firstly, balancing power centralization with democratic oversight is essential. Centralization should remain a temporary measure aimed at improving governance efficiency through the involvement of state and civic institutions in oversight during martial law. Emphasizing that centralization is temporary, with the intention to revert to democratic governance after martial law, is crucial. The reverse transition back to a democratic system of governance must align with democratic norms established during peacetime, enabling a seamless transition to democratic management *(Neskorodiev, 2022, pp. 51-52)*. This will help prevent autocratic tendencies and preserve the democratic foundation of governance post-martial law.

Secondly, improving management efficiency requires institutional adaptation, including reforming the executive branch and advancing digital technologies. This will accelerate decision-making and improve information sharing, both critical during crises.

Thirdly, updating the legislative framework to adapt norms to new conditions, with temporary legal provisions and a defined mechanism for returning to the pre-crisis legislative framework after the crisis ends, is essential.

Preserving citizens' rights and freedoms, minimizing restrictions, and ensuring the operation of human rights protection institutions will enhance public trust in the government. Strategic communication and disinformation protection play crucial roles in maintaining societal morale and information security, reducing the impact of hostile information attacks. Resource mobilization, including international support, will ensure an effective response to the country's threats.

In conclusion, these measures are not only important for Ukraine but could be beneficial for other countries facing the challenges of martial law in today's crisis-prone world. They can help prepare for emergency situations, and despite the temporary «reverse transition», ensure that democratic principles remain intact. Recent survey results reveal the sacrifice and determination of Ukrainians, particularly their commitment to democratic values and Euro-Atlantic integration: in all six waves of surveys (2022-2024) since the start of the invasion, 93% of respondents expressed a strong desire and readiness to strive for Ukraine to remain a fully democratic state *(NDI Survey, 2024)*.

References

1. De Mesquita, B. B., Smith, A., Siverson, R. M., & Morrow, J. D. (2005). *The logic of political survival*. MIT Press.

2. Dillon, M. (2013). *Bezpeka, filosofiia ta polityka. Globalni modernosti* (M. Featherstone, S. Lash, & R. Robertson, Eds.; T. Tsymbal, Trans.). Kyiv: Nika-Tsentr [in Ukrainian].

3. Kosilova, O., & Fedirko, I. (2024). Universality of political rights and freedoms. *Aktualni problemy polityky*, 73, 31-37. URL: http://app.nuoua.od.ua/archive/73_2024/73_2024.pdf [in Ukrainian].

4. Levitsky, S., & Ziblatt, D. (2018). *How democracies die: What history reveals about our future*. London: Viking, an imprint of Penguin Books.

5. Neskorodiev, S. (2022). Osoblyvosti publichnoho upravlinnia u voiennyi stan. *Collection of Scientific Papers "SCIENTIA"*, May 27, 2022, Stockholm, Sweden, 50–52. URL: https://previous.scientia.report/index.php/archive/article/view/53 [in Ukrainian].

6. Nordlinger, E. A. (1981). *On the autonomy of the democratic state*. Cambridge, MA: Harvard University Press.

7. Optytuvannia NDI: Popry tiahary viiny, prahnennia ukraintsiv do inkliuzyvnoi demokratii lyshaieitsia nezminnym. [NDI survey: Despite the burdens of war, Ukrainians' desire for inclusive democracy remains unchanged]. URL: https://kiis.com.ua/?lang=ukr&cat=reports&id=1422&page=1 [in Ukrainian].

8. Pro pravovyi rezhym voiennoho stanu. (Zakon Ukrainy № 389-VIII, May 12, 2015). URL: https://zakon.rada.gov.ua/laws/show/389-19#Text [in Ukrainian].

9. Schlumberger, O. (2015). Authoritarian regimes. In *Oxford Handbook Topics in Politics* (online ed.). Oxford Academic. https://doi.org/10.1093/oxfordhb/9780199935307.013.18

10. Stohova, O. V. (2024). *Instrumenty lokalnoi demokratyi v period voiennoho stanu: teoriia ta praktyka* (Doctoral dissertation). Sumskyi derzhavnyi universytet.

11. Ukaz Prezydenta Ukrainy № 64/2022 "Pro vvedennia voiennoho stanu v Ukraini". URL: https://www.president.gov.ua/documents/642022-41397 [in Ukrainian].

"FORCE MAJEURE" AS A BASIS FOR EXEMPTION FROM CONTRACTUAL LIABILITY IN EUROPEAN UNION LEGISLATION

Valeriia Bohdanova

Ph.D., Institute of State and Law named after V. M. Koretsky National Academy of Sciences of Ukraine, Ukraine

e-mail: valerysikorskaja@gmail.com, orcid.org/0009-0002-1956-7632

Summary

The article is devoted to the analysis of the legislative regulation of the "force majeure" category as a basis for exemption from contractual liability in the countries of the European Union. The legislative norms of such countries as Italy, France, Germany were developed and analyzed; conclusions were made regarding the peculiarities of the regulation of the "force majeure" category in contractual relations; the issue of the autonomy of the parties to the contract in the identification of such circumstances is studied. Considerable attention is paid to the relevant judicial practice, the decisions of the Courts of Cassation regarding their interpretation of "force majeure circumstances" and the characteristics by which the circumstances can be classified as force majeure. It has been established that the exemption of a party to a contractual relationship from civil liability is possible, according to the legislation of most countries, provided that the circumstances that have arisen meet two characteristics: emergency and unpredictability, that is, only external events that cannot be predicted and controlled. The author emphasizes variability circumstances that may fall under the features of "force majeure" and, accordingly, be basis for exemption from contractual liability. The role of the courts in regulating the contractual relations of the parties in the event of force majeure and the scope of their powers regarding the possibility of regulating contractual legal relations are investigated.

Key words: exemption from contractual liability, "force majeure", legislation of the European Union, doctrine of frustration.

1. Introduction

Events such as the COVID-19 pandemic, military conflicts (in particular, military aggression against Ukraine), natural disasters and economic crises lead to situations where the parties cannot fulfill their contractual obligations. The use of force majeure in such cases is extremely important. Force majeure is an important legal category in the context of contract law in the European Union (EU). All EU countries follow certain standards governing the use of force majeure as a basis for exemption from contractual liability. Given the fact that the EU has its own specific legal framework, which includes the regulation of contractual liability, the study of the specified issue is necessary in the context of the harmonization of domestic legislation with the legislation of the European Union.

The study of force majeure in the aspect of EU legislation allows for an in-depth understanding of the mechanisms of protection of parties in contractual relations and contributes to the effective regulation of legal aspects of commercial transactions in crisis situations. The results of this study will serve as a basis for a comparative analysis of Ukrainian and EU

legislation; borrow of positive trends of foreign law enforcement in the area of exemption from contractual liability for their implementation in the civil legislation of Ukraine.

The research methodology consists of the analysis of scientific works and studies of foreign scientists, which reveal the topic of force majeure and its interpretation in the legislation of different countries; analysis of civil legislation of countries such as Italy, France and Germany; a comparison was made in the approach of the legislator of the specified countries regarding the regulation of force majeure circumstances and their application to contractual obligations; the practice of the Courts of Cassation regarding the classification of circumstances into the category of "force majeure" was studied; generalization of the main characteristics of the legal regulation of the institution of exemption from contractual liability of the leading EU countries.

2. "Force Majeure" as a basis for exemption from contractual liability

Professor Rene David noted that the true object of the doctrine of frustration, as distinct from the doctrine of impossibility of performance, is to deal with the following situation; a contract has been made, and circumstances supervene, the effect of which is to upset the very foundations of this contract, in such a way that the contract which could eventually be performed would be in fact different from the contract originally contemplated by the parties *(René David, 1946: 11)*. Accordingly the doctrine of frustration of contract is that a party can be released from liability if it proves that the occurrence of an unforeseen circumstance after the conclusion of the contract resulted in the "destruction" of the purpose for which the contract was concluded.

In his works, Professor Aghim Nihui summarized the positions of his colleagues regarding exemption from contractual liability and stated that a force majeure is an external event that is not foreseen or cannot be accurately predicted when it will happen, and which cannot be afforded or avoided. In all cases when it is necessary to prove the presence of force majeure, first of all, it is necessary to prove its quality as external under which is not foreseen, and then it should be distinguished as a category of actions that are natural phenomena, such as earthquakes, floods, etc. These are external and unpredictable, but, despite this, in practice they cannot be controlled. It is important that specific actions that can be qualified as a major force are characterized as an unforeseen, unavoidable external event. Therefore, only events that cannot be predicted and controlled can be considered as force majeure *(Nuhiu, 2020:71-72)*.

3. The practice of applying force majeure in the countries of the European Union on the example of several countries

Italy. Exemption from contractual liability is a key component of Italian contract law, as it allows parties to avoid liability for non-performance or improper performance of contractual obligations due to circumstances beyond their control. An analysis of the Italian civil legislation indicates a lack of unity in the understanding of the definition of "unexpected circumstances" (forza maggiore), but given the description of these circumstances in the legislation and practice of the Courts of Cassation, such circumstances are reduced to factors that do not depend on the will of a person.

In the Italian Civil Code (Codice Civile), there are several articles that regulate exemption from contractual liability, in particular, according to the content of Article 1256 of the Italian Civil Code, the obligation is extinguished when, for a cause not attributable to the debtor, the performance becomes impossible. If the impossibility is only temporary, the debtor, as long

as it lasts, is not responsible for the delay in performance. However, the obligation is terminated if the impossibility persists regarding the purpose of the obligation or the nature of the object, the debtor can no longer be considered obligated to perform or the creditor is no longer interested in receiving it *(Art. 1256 of the Italian Civil Code, 1942).*

According to article 1467 of the Italian Civil Code, in contracts with continuous or periodic performance or deferred performance, if performance by one of the parties is to become excessively burdensome due to the occurrence of extraordinary and unforeseeable events, the party obliged to perform such performance may request the termination of the contract with following consequences from Art. 1458. It is not possible to demand termination, if it takes place burden falls under the normal risk of the contract. The party against whom the resolution is sought can avoid it by offering to fairly change the terms of the contract *(Art. 1467 of the Italian Civil Code, 1942).* In this way, the circumstances of force majeure in order to classify them as grounds for exemption from contractual liability according to Italian law must comply with two characteristics: extraordinary nature and unpredictability.

The Italian Court of Cassation provided a precise description of both terms in case No. 22396 dated 19.10.2006, which defines "extraordinary and unforeseeable facts" referred to in Art. 1467 of the Italian Civil Code. Thus, an extraordinary claim, according to the Supreme Court, is objective in the sense that it must be an abnormal event that can be measured and quantified based on elements such as its intensity and size. Contingency, on the other hand, is subjective in nature as it relates to the cognitive capacity and diligence of the contracting party. However, the assessment of this characteristic should be done completely objectively, taking as a model the behavior of an average person in the same conditions. The Supreme Court of Italy in this case also ruled that since the doctrine of frustration does not refer to the subject matter, nor to the economic and social function of the contract, nor to the purpose for which the parties concluded it, it must refer to an external factor which, although not specifically stated as a contractual condition – constitutes for both counterparties (or only for one of them, provided that the other counterparty recognizes this) a specific and objective condition on which the continuation of the contract depends, giving the counterparties the right (who relied on it) to terminate the contract if he will go wrong. (*Supreme Court judgment n.22396 of 2006:5*).

The Supreme Court in decision No. 965 dated February 28, 1997 established that only such an event that prevents the normal performance of the contract, as well as renders any actions of the debtor aimed at its elimination ineffective, can be considered as a situation belonging to the category irresistible force. It also notes that the preventing event should not depend on direct or indirect actions or inaction of the debtor (*Supreme Court judgment n.965 of 2006*).

Consequently the cited law-applicable practice of the Supreme Court of Italy allows us to summarize the following: attributing a circumstance that can exempt from contractual responsibility is possible if two conditions are met: extraordinary nature and unpredictability; the consequence of the occurrence of such circumstances is the impossibility of fulfilling the obligation; the priority of the interests of the parties to the contract in the event of force majeure; lack of fault of the contracting party in the occurrence of such circumstances; provision of several ways of changing the binding legal relationship either by amending the contract or terminating it.

Court practice in decisions No. 2316 dated 05.02.2016, No. 3670 dated 17.02.2014, No. 10133 dated 14.05.2005 deserves attention, in which the Court repeatedly noted that the discovery of archaeological finds underground (the so-called "archaeological surprise") is the cause of force majeure in accordance with Presidential Decree No. 1063 of 1962, Art. 30, paragraph 1, which prevents the continuation of work in violation of the obligations imposed by

law and without any discretion on the part of the client *(Supreme Court judgment n.2316 of 2016, n. 3670 of 2014, n.10133 of 2005:9)*. Therefore the above judicial precedents indicate a divergence from the traditional understanding of the concept of "force majeure" and allow us to conclude about their variability, provided that they meet two characteristics: extraordinary nature and unpredictability.

France. Exemption from contractual liability in French law, or "force majeure", is a critical aspect of contract law. French law on "force majeure" covers a range of circumstances, such as natural disasters, wars, acts of terrorism, strikes, as well as governmental actions or changes in legislation that make performance of the contract impossible. It is important to note that the event must be insurmountable and unforeseeable for both parties to the contract.

Before the 2016 reform took effect, the doctrine of the French Court of Cassation provided that any unforeseeable and irresistible event could be considered as force majeure (*Plenary session of the Court of Cassation of 14.04.2006)*. In February 2016, certain norms of French civil law were reformed, which also affected the institution of force majeure. As a result of the reformation of Article 1218 of the French Civil Code, the triptych of force majeure requirements has been restored, which is thus an obstacle to performance caused by an event that is 1) "outside the control of the debtor", 2) "reasonably unforeseeable at the time of the conclusion of the contract" and 3) "the consequences of which cannot be avoided by appropriate measures." That is, compliance with the circumstances that have arisen with three key features: external, unpredictability and irresistibility.

Article 1218 of the French Civil Code regulates that in contractual matters, there is force majeure where an event beyond the control of the debtor, which could not reasonably have been foreseen at the time of the conclusion of the contract and whose effects could not be avoided by appropriate measures, prevents performance of his obligation by the debtor. If the prevention is temporary, performance of the obligation is suspended unless the delay which results justifies termination of the contract. If the prevention is permanent, the contract is terminated by operation of law and the parties are discharged from their obligations under the conditions provided by articles 1351 and 1351-1. (*Art. 1218 of French Civil Code, 2016)*. In summary, force majeure under French law is an unavoidable event that cannot be overcome and makes the performance of the contract impossible, and therefore the contract will subsequently be voided under French law and the party is not liable for such party's failure to perform their obligations under the contract. However, Article 1218 is not a mandatory rule, but rather a default rule from which the parties can deviate, so the parties are free to define force majeure at their own discretion to include or exclude events as force majeure in their contractual relations. However, the parties cannot completely exclude the use of force majeure from their contract, as this "must be negotiated, formed and performed in good faith" provided for in Article 1104 of the Code (*Art. 1104 of French Civil Code, 2016)*. It should be noted that it is not a French court will not readily accept a non- performance defence based on force majeure, as there is a strong belief in the strict application of pacta sunt servanda (contracts must be performed) to contractual obligations. Therefore only in exceptional circumstances is force majeure accepted as an excuse for non-performance *(Hossein, 2012:166-167)*.

Succinctly, the application of force majeure in the aspect of French judicial practice shows that natural disasters and meteorological phenomena are quite often recognized by the courts as unforeseen circumstances that make it impossible to properly fulfill an obligation. Thus, an unusually strong hurricane can be considered a case of force majeure (Cass. Civ. 1st, May 11, 1994, Bull. Civ. III, n. 94), as can a volcanic eruption (Cass. Civ. 1st, March 8, 2012,

No. 10-25.913). Conversely, a late freeze, even classified as an "agricultural disaster," is not an unforeseen event (Cass. Soc., Oct. 25, 1995, No. 95-40866). Similarly, a state of natural disaster declared by the administration does not allow for the conclusion that the event is necessarily a force majeure (Cass. Civ 3rd, March 24, 1993, №91-13.541). However, not only natural disasters belong to the specified category, taking into account the practice of French courts. The debtor is released from liability in case of non-fulfillment of contractual obligations due to an illness that personally affected the debtor (Cass., Ass. Plén., April 14, 2006, №02-11.168; Cass. civ. 1, February 10, 1998, №96-13.316). This position of the courts corresponds to the reform of the law of obligations, which requires that the event be external and "beyond the control of the debtor, because the disease is an exogenous pathological condition and its development cannot be controlled".

On the contrary, the nature of the event is not of great importance and in itself cannot be considered a case of force majeure. Moreover, the same event can constitute force majeure in one situation, but not in others. An episode of exceptional drought and heat wave that occurred in France in 2003, classified as a natural disaster, was a force majeure event where an insurer's guarantee was used to reconstruct a building (Cass. Civ 2nd, March 29, 2018 №17 -15017); however, this event alone could not absolve Monsanto of responsibility for the supply of heat-tolerant tomato seeds (CA Aix-en-Provence, 22 April 2015, №12/19468) *(Glaser, Pinto, 2020)*.

In essence the legal doctrine of "force majeure" has deep roots in French law and provides an important mechanism to protect parties from the unfair burden of fulfilling obligations in the event of unforeseen circumstances. Excuse for non-performance based on the force majeure defence is granted only if the aggrieved party proves the following four requirements: 1. Externality: Occurrence of an external event for which the obligor has not assumed the risk; 2. Unavoidability/Irresistability: The occurrence of the external event was beyond the obligor's (typical) sphere of control/the ordinary organization of his business and was absolute; 3. Unforseeability: The event and its consequences, i.e. the adverse impact on the obligor's ability to perform, could not reasonably have been avoided or overcome by the obligor, e.g. by alternative and commercially reasonable (measured against the risk-distribution in the contract) modes of performance, procurement or transportation, or other safety measures. External events are typically unforseeable; 4. Causation ("conditio sine qua non", "but for"-test): The obligor's non-performance was, as a "matter of commercial reality" caused by the external event and not by the obligor's own fault (e.g. self-inflicted production problems, defective goods or packaging or the aggrieved party would not have performed in any event for other reasons unrelated to the force majeure event). If the triptych is applied to the circumstances that have arisen (Externality – Unavoidability – Unforseeability), the contractual party may be exempted from responsibility for non-fulfillment of the contract. According to the doctrine of force majeure in French law, the contract will be terminated and the party will not be liable for failure to perform its obligations under the contract if the courts are satisfied that the performance of the contract has become impossible due to an event that the parties could not have reasonably foreseen at the time concluding a contract.

Germany: Force majeure circumstances are not directly regulated by German law. However, the norms of the German Civil Code testify to the consolidation of provisions on "force majeure" in its other norms.

According to Article 275 of the German Civil Code, a claim for performance is excluded to the extent that performance is impossible for the obligor or for any other person. The obligor may refuse performance to the extent that performance requires an expenditure of time and

effort that, taking into account the subject matter of the obligation and the requirement of acting in good faith, is grossly disproportionate to the obligee's interest in performance. In determining what efforts reasonably may be required of the obligor, it also is to be taken into account whether they are responsible for the impediment preventing performance. In addition, the obligor may refuse performance if they are to render the performance in person and, having weighed the impediment preventing performance by them against the obligee's interest in performance, performance cannot reasonably be required of the obligor. *(Art. 275 of the German Civil Code, 2002).* Consequently the specified provisions establish the doctrine of the impossibility of fulfilling the obligation ("Unmöglichkeit"), which provides that the obligor can refuse to fulfill the contract if the performance has become impossible both for himself and for any other person, and it is the obligor who bears the burden of proving impossibility and absence his fault in these cases.

Also, the occurrence of force majeure circumstances is traced in the concept of "change of circumstances". Article 313 of the German Civil Code provides that if the circumstances on which the contract was concluded have changed significantly, the contract may be modified (if possible) or terminated if one of the parties cannot reasonably be expected to perform the contract *(Art. 313 of the German Civil Code, 2002)*. The concept of "change of circumstances" means that both parties can request changes to the contract if compliance with the previous terms of the contract cannot reasonably be expected of one party. If a change to the contract is not possible or cannot reasonably be expected from one of the parties, the other party may withdraw from the contract (or terminate the contract depending on the nature of the contract). In addition, if a force majeure event causes a breach of contract, the other party cannot claim damages if the event and its consequences were beyond the debtor's reasonable control. The above shows that the party demanding the application of the consequences of force majeure to contractual relations must prove that it has taken all necessary and reasonable measures to avoid adverse consequences.

Also, after researching the legal regulation of certain types of contracts, it was established that the German legislator predicted the consequences of the occurrence of the relevant circumstances. Thus, in accordance with Part 3 of Art. 651h of the German Civil Code, which regulates travel contracts, provides that "... the organiser may not demand compensation if unavoidable and extraordinary circumstances occurring at the place of destination or its immediate vicinity significantly affect the performance of the package or the carriage of passengers to the destination. Circumstances are unavoidable and exceptional within the meaning of this Subtitle if they are not subject to the control of the party who invokes such a situation and if their consequences could not have been avoided even if all reasonable measures had been taken." *(P.3 art. 651h of the German Civil Code, 2002).*

Therefore, the doctrine of "force majeure" is pivotal in German contractual law and aims to protect the parties to the contract from the consequences of unforeseen and insurmountable circumstances that make the performance of the contract impossible. The main characteristics of force majeure in German law can be distinguished: 1) unpredictability: the event must be unexpected and unplanned; 2) insurmountable: the circumstances must be so serious that they cannot be avoided or overcome; 3) influence on the performance of the contract: the event must directly affect the ability of the parties to fulfill their contractual obligations; 4) temporary or permanent nature: force majeure can be both temporary and permanent. In case of temporary force majeure, the performance of the contract may be suspended for a certain time until the circumstances change. If the circumstances continue for a long time, the contract can be terminated in a judicial and extrajudicial manner.

4. Conclusions

Force majeure is a necessary legal instrument that helps protect the interests of the parties to the contract in the event of unforeseen events which allows avoiding unjustified financial and other obligations that may arise as a result of such circumstances and ensuring the stability of contractual relations. According to the legislation and law enforcement practice of many countries, force majeure can be defined as an event or circumstance that occurs beyond the control of the parties to the contract and makes the performance of the contract impossible or significantly complicated. The main criteria for assigning circumstances that make it impossible to perform the contract, there is unpredictability and irresistibility of the event.

Analysis of the legislation of the specified countries in the context of "force majeure" makes it possible to succinctly formulate conclusions about their main characteristics. Thus, in Italy, force majeure allows the parties to the contract to refuse to fulfill their obligations without consequences for non-performance, if these circumstances really arose and affect the performance of the contract; French law rejects any modification or adjustment of contracts by the courts, and the debtor must fulfill his obligations in the most efficient way; German law allows the courts to adjust the parties' contract in cases of difficulties and impossibility of their implementation due to the failure of the parties to reach an agreement.

References

1. "Cass. February 28, 1997, n. 965" (1997). Italy. Supreme Court of Cassation. Case No.965. February, 1997. Retrieved from https://www.studiolegaleripoli.eu/il-principio-di-forza-maggiore-ai-tempi-del-coronavirus-covid-19/ [in Italian].
2. "Cass. 19 October 2006, n. 22396" (2006). Italy. Supreme Court of Cassation. Case No. 22396. October 19, 2006. Retrieved from https://www.studiolegalestefanelli.it/Media/Sentenze/ Relazione_Tematica_Civile_056-2020.pdf [in Italian].
3. "Cass. February 5, 2016, n. 2316" (2016). Italy. Supreme Court of Cassation. Case No.965. February, 2016. Retrieved from https://i2.res.24o.it/pdf2010/Editrice/ILSOLE24ORE/ QUOTIDIANO_EDILIZIA/Online/_Oggetti_Correlati/Documenti/2020/05/26/CASSAZ_ CIVILE_7463.pdf?uuid=d23bbc68-9e83-11ea-a866-97e2792f15c4 .[in Italian].
4. Civil Code (16 March 1942, n. 262). Approval of the text of the Civil Code. (042U0262) (GU General Series n.79 of 04-04-1942) – Retrieved from https://www.gazzetta ufficio.it/dettaglio/ codici/codice Civile. [in Italian].
5. Court of Cassation, Plenary Assembly, of April 14, 2006, 04-18.902, Published in the bulletin. France, April, 2006. Retrieved from https://www.legifrance.gouv.fr/juri/id/JURI-TEXT000007051642/ [in French].
6. German Civil Code BGB. Germany, Civil Code in the version promulgated on 2 January 2002 (Federal Law Gazette [Bundesgesetzblatt] I page 42, 2909; 2003 I page 738), last amended by Article 1 of the Act of 10 August 2021 (Federal Law Gazette I p. 3515). Retrieved from https://www.gesetze-im-internet.de/englisch_bgb/englisc h_bgb.html
7. Glaser P., Pinto L., Taylor Wessing. (2020). French law: force majeure and revision for unforeseen circumstances—principles to the test of COVID-19. Retrieved from https://www. taylorwessing.com/en/insights-and-events/insights/2020/04/french-law-force-majeure-and-revision-for-unforeseen-circumstances-principles-to-the-test-of-covid19?form=MG0 AV3.

8. Fazilatfar, H. (2012). The impact of supervening illegality on international contracts in a comparative context. The Comparative and International Law Journal of Southern Africa, 45(2), 158-188.   Retrieved from https://unisapressjournals.co.za/index.php/CILSA/ article/ view/11377.

9. French Civil Code. (2016). (Cartwright J., Fauvarque-Cosson B., Whittaker S., Trans). Retrieved from https://www.trans-lex.org/601101/_/french-civil-code-2016/.

10. Prof. Dr. Agim Nuhiu (2020). Exemption of civil dilectual responsibility. ECONOMICUS, No.19, issue 1/ 2020, 70-79. Retrieved from https://uet.edu.al/economicus/wp-content/ uploads/2023/02/economicus-19-issue-1.pdf.

11. René David (1946). Frustration of Contract in French Law Journal of Comparative Legislation and International Law. Cambridge University Press Vol. 28, No. 3/4., 1946, 11-14 Retrieved from https://www.jstor.org/stable/754645.

DECOLONIZATION OF URBAN SPACE OF ZAPORIZHZHIA (2014–2023 PP.): INFORMATIONAL AND COGNITIVE DYNAMICS OF SOCIETY

Viktor Burenkov

Candidate of Historical Sciences, Doctoral Candidate at the Department of Modern History
Ukraine, Zaporizhzhia National University, Ukraine
e-mail: wiktorburenkov@gmail.com, orcid.org/0000-0002-9632-3781

Viktoriia Kovpak

Doctor of Science in Social Communications, Professor, Professor at the Department of
Social Communications and Information Activity at the Faculty of Journalism,
Zaporizhzhia National University, Ukraine
e-mail: Kovpak.viki@ukr.net, orcid.org/0000-0001-9461-0536

Nataliia Lebid

Candidate of Philological Sciences (Ph. D.), Associate Professor, Associate Professor at the
Department of Publishing and Editing at the Faculty of Journalism,
Zaporizhzhia National University, Ukraine
e-mail: lebidnataliia2019@gmail.com, orcid.org/0000-0002-7227-6597

Summary

This article examines the processes of decolonization, derussification, and decommunization of urban space of Zaporizhzhia from 2014 to 2023. The influence of public sentiment, cultural changes, and legal acts on the transformation of urban objects is analyzed with special attention. During the study, there are under consideration the dynamics of toponym renaming, the dismantling of Soviet-era monuments, and the overcoming of imperial heritage in public space. Special attention is paid to the relationship between the processes of decommunization and national security, since the decolonization of the urban environment is an important element in countering Russian propaganda and restoring national identity. The article contains an analysis of the legal framework, including laws adopted in 2015 and 2023, which contributed to the purification of public space from totalitarian symbols, along with monitoring of the information space with the help of the Brand24 program regarding indicators of representation and popularization of this topic in the media. In the conclusions, the authors emphasize the importance of decolonization processes for the formation of a new national memory and restoration of historical justice in the context of European integration aspirations of Ukraine. Prospects for further research are focused on the analysis of social and cultural changes caused by these processes.

Key words: renaming, public space, toponyms, symbolic decolonization, national identity, Soviet heritage.

1. Introduction

The processes of decolonization, derussification, and decommunization have gained special relevance in the context of political and social transformations,are which taking place in

Ukraine after 2014. Zaporizhzhia, as one of the largest cities in the country, became an important center of these changes, which affected its the urban space and cultural heritage. For several decades, Soviet authorities and Russian imperial policy shaped the city identity through the imposition of toponyms, monuments, and symbols that emphasized colonial status of Ukraine. Clearing the public space of these markers has become an integral part of the struggle for national identity and independence.

The novelty of this research lies in the comprehensive analysis of decolonization processes in one specific city – Zaporizhzhia. Special attention is paid to the role of these processes in the formation of a new national memory and their influence on cultural and social changes. The relevance of the scientific approach is justified by the need to study not only political, but also symbolic changes taking place in the public space of Ukrainian cities in the context of the escalation of the conflict with Russia.

The decolonization of urban space of Zaporizhzhia is an important step on the way to overcoming the Soviet and imperial heritage, which makes this research relevant for the study of contemporary social processes in post-colonial societies.

The aim of this article is to study the processes of decolonization, derussification, and decommunization of the urban space in Zaporizhzhia during 2014-2023. Emphasis is placed on the study of the dynamics of social moods and cultural changes that contributed to the rethinking and renewal of the urban space in the context. The object of this study is the urban space of Zaporizhzhia and its transformation as a result of decolonization processes.

The objectives of this study are to conduct a detailed analysis of the legal framework that regulates the processes of decolonization and decommunization in Ukraine, with a special emphasis on the laws adopted in 2015 and 2023 and their implementation in the urban space of Zaporizhzhia. One of the key goals is to study the social and cultural changes that took place in Zaporizhzhia and the impact of these changes on the renewal of urban space. In this context, the dynamics of public sentiment and attitudes towards the Soviet heritage are analyzed, as well as the creation of new national symbols in public space.

Special attention is paid to the role of civil society and local authorities in the processes of decommunization and derussification, including the renaming of toponyms and the dismantling of monuments. It is also examined how these processes affect national security, in particular through countering Russian propaganda and protecting the information space of the country. Finally, the research is aimed at evaluating how the decolonization of urban space contributes to the formation of a new national memory and identity of Zaporizhzhia, especially, in conditions of active participation of cultural institutions and civil society.

2. Literature review

To study the processes of decolonization, derussification, and decommunization of the urban space of Zaporizhzhia, an interdisciplinary approach was used, which combines the methods of historical, sociological, and socio-communication studies. The main methodological principles were the systematic approach, comparative analysis, historical-chronological method, document analysis method and using the Brand24 Internet space monitoring program.

The applying of the system approach made it possible to consider decolonization processes as a complex phenomenon affecting various aspects of the social and cultural life of the city. The comparative analysis provided an opportunity to compare changes in Zaporizhzhia with other regions of Ukraine and post-Soviet countries, which made it possible to identify common features and unique features of these processes.

The historical-chronological method was used to track the dynamics of changes in top-onymy, the dismantling of monuments and other symbols of the Soviet era, as well as to analyze the legal framework regulating these processes. The analysis of documents made it possible to examine official documents, statements of state and public organizations, as well as media materials related to decolonization processes. The Brand24 Internet space monitoring program made it possible to analyze online media for the popularization of investigated topic in the information field.

3. Historiographic analysis (Literature review)

The study of the processes of decolonization of the urban space of Zaporizhzhia in the period 2014-2023 is based on the historiographical tradition, which considered both theoretical and practical aspects of decolonialism, derussification, and decommunization in the urban environment.

The groundwork on basis of which the intellectual current of postcolonialism and decolonization studies was built was laid by the Western Edward Said *(Said, 1995)*, Gomi Bhabga *(Bhabha, 1994)*, Gayathri Spivak *(Spivak, 1988)*. These theories were further developed in the scientific studies of the modern colonial school («the modernity/coloniality school») of sociologist Anibal Quijano *(Quijano, 2007)*, philosopher Maria Lugones *(Lugones, 2007)* and semi-otician Walter Mignolo *(Mignolo, 2002)*. An important phenomenon of foreign historiography is the work by Paul Connerton «How societies remember», in which the scientist tries to reveal the mechanisms of memory preservation and transmission to the next generations. According to him, this process takes place through structures of social memory, commemoration ceremonies and body memory *(Connerton, 1989)*.

In the Ukrainian context, important historiographic assets are works those, which, after the restoration of Ukrainian independence in 1991, focus on the study of the politics of memory. It is during the transformation of the memory policy that «textbooks are "rewritten", memory locations are changed, etc.» *(Kyrydon, 2015: 247)*. The reinterpretation of the imperial and Soviet past has actualized the issue of cleaning the national grand-narrative from colonial stratification.

Post-colonial studies in Ukraine started to be formed with particular intensity after gaining independence in 1991, although the theoretical understanding of colonial policy was also in the Soviet period, when Ukrainian intellectuals and dissidents criticized the Soviet policy of Russification and cultural unification *(Dziuba, 2005)*. In modern terms, postcolonial studies cover a wide range of issues related to decolonization, derussification, and decommunization as central issues of national politics of memory and cultural transformation. An important area of post-colonial researches in Ukraine is the analysis of the formation of national identity in the conditions of the colonial past. Mykola Ryabchuk in his book «Postcolonial syndrome. Observation» analyzes the origins of Ukrainian political problems, which are related to colonialism and its consequences, in close relationship with cultural and psychological problems *(Riabchuk, 2011)*. One of the most problematic points in the development of historical politics and politics of memory in Ukraine, according to Ukrainian historian Heorhiy Kasyanov, is the confrontation between the Soviet-nostalgic and nationalist versions of history, which, in his opinion, divided Ukraine and weakened it before the Russian invasion in 2014 *(Kasianov, 2022)*. Ukrainian historians Alla Kyrydon *(Kyrydon, 2016)*, Oleksandr Hrytsenko *(Hrytsenko, 2014)*, Larisa Nahorna *(Nahorna, 2012)*, Yuriy Shapoval *(Shapoval, 2021)* also made an important contribution to the study of the politics of memory and commemorative practices of Ukraine.

We cannot overlook the coverage of decommunization processes in the historiography. One of the leading Ukrainian inspirers and leaders of decommunization in Ukraine is Volodymyr Viatrovych. In his articles and public speeches he characterizes the course, main shortcomings and consequences of the decommunization process he launched, draws attention to the symbolic aspect of cleaning (renaming streets, dismantling monuments) of public space from Soviet markers and considers this as an important step in the restoration of national memory *(Viatrovych, 2015)*. Critical remarks regarding the legal aspects of the «decommunization laws» appeared almost immediately in the publications of the following researchers, such as: K. Dronova and E. Stadny *(Dronova, K., Stadny, Y., 2015)*, G. Koinash *(Koinash, 2015)*, V. Kulyk *(Kulyk, 2015)*, O. Motyl *(Motyl, 215)*, A. Umland *(Umland, 2015)*. The non-acceptance of these laws was gradually being replaced by the inclusion of the public of the regions in the process of cleansing the symbolic space from imperial, Russian, and communist symbols. With the spread of decommunization processes in the regions of Ukraine, there was a natural demand for a scientific analysis of regional features of this process, as well as the development of certain scientific recommendations *(Butko, S., Horobets, S., Karetnikov, I., Korolenko, B. & Maiorov, M. (Eds.), 2015; Takhtaulova M. (ed.), 2023)* for committees and the public who were directly involved in decommunization processes at the local level. This demand was covered by a number of scientific publications that reflected regional features of decommunization *(Males, 2016; Lisovskyj, A.S., Prydetkevych, S.S., Matuz O.V., 2024; Vodotyka, S., Savenok, L., 2017; Hnatiuk, O., Melnichuk, A., 2020)*. One of these works is the book by Oleksandra Haidai *(Haidai, 2016),* who investigated the fate of the Soviet symbolic heritage after the collapse of the USSR using the example of Central Ukraine. O. Haidai shows how different views of Soviet history coexisted in this region, competing with each other. It demonstrated the variability of local historical politics and ways of overcoming the Soviet past, including the dismantling of Lenin monuments. This study reasonably proves the need to take into account the regional features of historical memory during decommunization processes.

Scientific papers devoted to the analysis of the decolonization of the urban space of Zaporizhzhia are important for our research. There are still quite a few studies devoted to Zaporizhzhia in this context, among which we can single out two articles: Iryna Pavlenko «De-Sovietization and decommunization of the Ukrainian urban icon (on the material of the names of the objects of the urban space of Zaporizhzhia)» *(Pavlenko, 2020)* and Oleksii Shteinle «The German Question in Zaporizhzhia Decommunization» *(Shteinle, 2018)*. Both articles create a general picture for understanding the processes of decommunization and de-Sovietization in Zaporizhzhia as components of the broader decolonization policy of Ukraine. Iryna Pavlenko demonstrates the evolution of city titles in Zaporizhzhia, emphasizing two interrelated stages: de-Sovietization and decommunization, while Oleksiy Shteinle focuses on specific aspects of decommunization of Zaporizhzhia connected with the German community, which had a significant impact on the development of the region. These works highlight the complexity of decolonization processes in a region where economic, cultural, and national factors are intertwined.

4. Results and discussion

One of the important tasks of decolonization in Ukraine is cleaning the public space of cities from Russian and Soviet toponyms (urbanonyms). For a long time, the Russian and Soviet authorities tried to undermine, enslave or completely destroy the historical, cultural and linguistic identity of Ukraine, replacing autochthonous names with their own, which marked the colonized space with distinctly Russian/imperial/communist symbols, thereby distorting the

cultural landscape of the urban space. That is why «the issue of overcoming imperial myths, saying goodbye to hostile narratives and markers not only in the public space, but also in the minds of Ukrainians, is a matter of national security. And the current rethinking of the past, which we can call the de-occupation of consciousness or the demining of memory, is a significant part of our mental resistance to the aggressor» *(Takhtaulova, 2023: 5).*

The first thing to pay attention to is the removal of markers of imperialism and superiority of the «elder brother» from the public space. After all, as we noted earlier, an important component of establishing the political and symbolic power of the Kremlin over the conquered territories was the establishment of a common cultural space, in particular by erecting monuments and memorial signs that were imperial (Russian and Soviet) symbols. Such markers are also toponyms, particularly the names of settlements, streets, squares, alleys, etc., as well as corresponding images in the exteriors and interiors of public buildings and structures» *(Takhtaulova, 2023: 8).*

The first impulse for the de-occupation and decolonization of the space of Ukraine was provoked by the socio-political processes launched by the Revolution of Dignity. The revolutionary processes of that time determined the further political and cultural development of Ukraine, which was connected with the European future, which should not be burdened by the colonial legacy. The pressure of civil society on political elites made it possible to create a legislative framework that helped to get rid of the imperial heritage in a legal way. For this, the Supreme Council of Ukraine adopted a package of laws, which were immediately called «decommunization laws». The main purpose of the adopted Law of Ukraine «On the Condemnation of the Communist and National Socialist (Nazi) Totalitarian Regimes in Ukraine and the Prohibition of the Propaganda of Their Symbols» *(Pro zasudzhennia komunistychnoho ta natsional-sotsialistychnoho (natsystskoho) totalitarnykh rezhymiv…)* was the condemnation of the Communist and National Socialist (Nazi) totalitarian regimes in Ukraine, as well as the determination of «the legal basis for the prohibition of the propaganda of their symbols and establishing the order of liquidation of the symbols of the communist totalitarian regime» *(Pro zasudzhennia komunistychnoho ta natsional-sotsialistychnoho (natsystskoho) totalitarnykh rezhymiv…).* At the request of this Law, on July 2, 2015, Mayor of Zaporizhzhia O. Sin issued a decree No. 180r «On the creation of a working group on the preparation of measures related to the implementation of the Law of Ukraine dated April 9, 2015 No. 317-VIII «On the condemnation of communist and national of socialist (Nazi) totalitarian regimes in Ukraine and the prohibition of propaganda of their symbols» and the order of this group is determined *(Pro vnesennia zmin do rozporiadzhennia miskoho holovy…).* This committee included representatives of local authorities and management, researchers and scientists, representatives of public organizations and cultural figures. In fact, the formation of this committee marked the beginning of the process of decommunization in Zaporizhzhia. The newly created committee had to analyze the large number of names of objects that fall under this law and start the process of renaming. According to estimates of Serhiy Surchenko, the responsible secretary of Zaporizhzhia NGO NULHU, on July 1st, 2015, there were 1,070 streets, 268 alleys, 7 boulevards, 5 avenues, 5 highways, and 5 driveways in Zaporizhzhia *(Surchenko, 2015).* The researcher carried out laborious work on the analysis and systematization of city street names, as it turned out in Zaporizhzhia: 13 streets are named after Cossack otamans, 5 streets remind of the Cossack past (Baydy, B. Khmelnytskyi, I. Bohuna, P. Doroshenko, P. Kalnyshevskyi, I. Kochubey, S. Nalivaiko, I. Sulima, P. Sagaidachnoy, S. Palia, F. Tryasil and tentatively Taras Bulba; Zaporizka Sich, Sich, Sichovy lane, Kozacha, Zaporizhzhia Cossacks); 10 streets are named in honor of Ukrainians during the civil war, 20 streets reflect the events of the war with fascism;

24 names are associated with representatives of the creative intelligentsia (writers, actors, scientists) before the revolution and 15 – up to the present day. In addition, the researcher found streets that are directly related to geographical objects of Ukraine, namely: 27 names derived from the names of rivers, mountains, seas and 86 ones from Ukrainian cities *(Surchenko, 2015)*. To illustrate the dominance of Russian/Soviet urbanonyms in the urban space of Zaporizhzhia, the following data will be indicative: in honor of pre-revolutionary figures – 32 names; revolutionaries and builders of socialism – 61 names; participants in the war against fascism – 60 names; 23 Comintern members; 63 Russian creative intellectuals; revolution and social construction – 77 streets; the industrial component of the city is represented by 207 names; 40 are derived from geographical objects and 103 are Russian cities *(Surchenko, 2015)*. Simple mathematical calculations indicate the obvious dominance of Russian/Soviet names in the urban space of Zaporizhzhia and are markers of the imperial colonial policy of national equalization, as well as the Soviet policy of forming a «new Soviet man» («homo sovieticus»), who was not supposed to have special sentiments towards his homeland and could quickly change his place of residence.

This law became the key to dismantling monuments and renaming streets that were symbols of Soviet ideology. In the first years after the adoption of the law, large-scale work on changing toponyms was carried out in Zaporizhzhia, in particular, more than 100 streets and squares, including central city objects, were renamed.

The process of decommunization/derussification of the urban space, which began in 2015, stretched over time, which is due to the peculiarity of the formation of local political elites, which for a long time were under the influence of communist/Russian standards and did not easily give in to their «ideals». It was possible to overcome the resistance of the local elites and start changing the symbolic space of the city thanks to the active public position of the citizens, local researchers, the regional mass media, which actively covered the process of decommunization in the city on their resources, as well as the passionarity of the reformed Ukrainian Institute of National Memory.

It should be noted that Zaporizhzhia faced a difficult task, because at the beginning of the decommunization process in the city, as we testified above, there were more than a thousand objects with names related to the Soviet past. Among them there were streets, squares and monuments dedicated to Soviet figures, revolutionaries and events that are one way or another related to the Soviet era.

To understand the pace and dynamics of this process at the all-Ukrainian and local level, it should be said that in 2016 alone, «987 settlements and 25 districts were renamed. Almost 51,500 toponyms were renamed in Ukrainian settlements and 2,389 monuments and memorial signs that contained propaganda of the totalitarian regime were dismantled» *(Zvit Ukrainskoho instytutu natsionalnoi pamiati…)*. Zaporizhzhia did not lag behind the all-Ukrainian process, for example, during the second session of the Zaporizhzhia City Council held on February 19, 2016, the deputies, guided by the law on decommunization, made a number of decisions on the dismantling of monuments, the renaming of some districts, more than a hundred streets , avenues, squares of the city of Zaporizhia *(Druha sesiia miskoi rady…)*. One of the stumbling blocks during this phase of decommunization was the issue of dismantling the Lenin monuments that had dominated the city public space for a long time. As of 2024, the monument to the «leader of the proletariat» is in storage at the municipal utility of the city, although a petition has been created that proposes to sell it and direct received funds to the needs of the Armed Forces of Ukraine *(Petytsiia «Pro dotsilne vykorystannia pamiatnyka leninu»)*. An important role in this process was played by representatives of local public organizations, scientific and cultural

institutions of the city, which took an active part in renaming streets, squares and parks *(Pro vnesennia zmin do rozporiadzhennia miskoho holovy…)*. For example, due to the activity of local activists, a number of public discussions were held *(Konsultatsii z hromadskistiu)*, where city residents could express their opinions on new names and symbols. This made it possible to take into account different views and make the process of decommunization more open and democratic. One of the most revealing and anticipated cases of renaming in Zaporizhzhia, initiated by local activists, was the renaming of Lenin Square to Zaporizhia Square *(Rozpori-adzhennia miskoho holovy №85r)* and Zhovtneva Square to the Maidan of Heroes, who were «decommunized» «in order to perpetuate the memory of the citizens of Ukraine who gave their lives for the freedom and independence of Ukraine» *(Pro pereimenuvannia ploshchi Lenina…)*.

Summarizing the results of the first stage of decommunization, the former head of the Institute of National Remembrance, Volodymyr Viatrovych, noted that «2016 was the year of decommunization in Ukraine. During the period of validity of the Law, Ukraine has done more to overcome the heritage of the totalitarian past than during the entire period of independence. The changes that are easy to see on the map of the country or individual settlement are irrevers-ible, they are a necessary element of our integration into democratic Europe» *(Ponad 50 tysiach vulyts zminyly nazvy…)*.

The cleaning of the symbols of the totalitarian era in Zaporizhzhia is an example of how changes in public space affect the transformation of the socio-political attitudes of the citizens. This process is confirmed by the results of a sociological study conducted by the Sociological Group «Rating» in November 2016, which showed that «almost half of the respondents (48%) supports the idea of banning communist ideology in Ukraine, 36% are against, 16% are unde-cided» *(Stavlennia do okremykh istorychnykh postatei)*. Sociology has also recorded that in the South of Ukraine (including Zaporizhzhia region) only a third of the residents of the region is in favor of banning communist ideology, which is significantly less than in the West of Ukraine, where this figure reaches 78% *(Stavlennia do okremykh istorychnykh postatei, 2016: 3)*. A simi-lar attitude of the population was recorded regarding the dismantling of Lenin monuments – «In the West, the majority (72%) supports this idea, in the Center this figure is almost two times lower – 41%, in the South in almost three times (26%), and in the East – four times lower (18%)» *(Stavlennia do okremykh istorychnykh postatei, 2016: 3)*. Sociologists also studied the attitude of the population of Ukraine to the initiative of renaming the Soviet names of cities and streets in Ukraine. In this case, we see that the attitude of the population is ambiguous – 57% of respondents do not support it while just 35% of those surveyed do. Renaming is perceived mostly positively in the West, while in the East and South it is mostly negatively taken *(Stavlen-nia do okremykh istorychnykh postatei, 2016: 3–4)*. The results of this study are correlated with the population support of pro-Russian parties at the time, such as «For Life» and «Opposition Bloc». It is possible to trace a clear relationship between the support of pro-Russian, populist parties in the East and South of Ukraine and the low support of residents of these regions of the processes of decolonization / decommunization *(Stavlennia do okremykh istorychnykh postatei, 2016: 18, 20)*. With the beginning of the full-scale military invasion of the Russian Federation in Ukraine on February 24, 2022, sociology changed significantly.

In the conditions of the enemy's armed intervention, Ukrainian society and political elites united not only to repel the occupier on the battlefield, but also reached a consensus on the need for the final decolonization of the symbolic space from Russian imperial and communist Soviet influences. From this moment on, it is recorded an avalanche-like collapse of the level of Ukrainians' perception of ideological theses related to the «common» Soviet-Russian history. A clear example of this process is the dynamics of the decline of nostalgia for the USSR – in

Russia, over the past ten years, this nostalgia has mostly increased (since 2010 the indicator has increased from 55 to 63%), while in Ukraine, on the contrary, it has sharply decreased (from 2010, from 46 to 11%) *(Desiate zahalnonatsionalne opytuvannia, 2022: 4)*. As the Ukrainian historian Iury Shapoval appropriately points out: «The neo-imperial policy of the Kremlin (which actively uses Soviet symbolic capital and Soviet historical mythology), Russian armed aggression and the occupation of 7% of Ukrainian territory ultimately led to the fact that the «nuclear» pro-Russian electorate in the Autonomous Republic of Crimea and in Eastern Donbas ended up outside the Ukrainian political field. Pro-Russian parties lost the significant part of voters, their influence on politics, including the politics of memory, significantly decreased. This opened up additional opportunities for decommunization in all spheres of social life: lustration (politicum), prohibition of communist symbolism and toponymy (socium), change of value orientations in historical education, cultural revolution – from a priori complimentary perception («common history») to construction of national grand narrative» *(Shapoval, Y., Vasylieva, I., Matviienko, I., 2020: 111)*. The historian's conclusions are confirmed by sociology, because as of April 2022, more than 65% of the population of Ukraine support the renaming of streets containing Russian/Soviet names, and 71% are in favor of dismantling monuments related to Russia. In addition, 62% of citizens are in favor of banning the broadcasting of Russian musical productions on radio and television *(Desiate zahalnonatsionalne opytuvannia, 2022: 28)*. Such transformation of public consciousness and the beginning of a full-scale invasion of Russia into Ukraine created conditions for the transition to the next stage of social changes – derussification.

On March 21, 2023, the Supreme Council of Ukraine adopted amendments to the Law of Ukraine «On Geographical Names» regarding the decolonization of toponymy and regulating the use of geographical names in settlements of Ukraine *(Pro heohrafichni nazvy shchodo dekolonizatsii toponimii…)*. The main goal of making changes to this law «is to purify and improve the domestic public space from the imposed communist-foreign ideologues, to ensure the influence of Soviet-Russian narratives on the worldview of Ukrainians, to establish historical justice and to fully restore Ukrainian historical-national toponymy modernizing it with the names of the latest Heroes in the fight against the enemy» *(Mokan, 2023)*. Having declared such an ambitious goal, the legislators expanded Article 5 of the Law of Ukraine «On Geographical Names», stating that «it is forbidden to assign to geographical objects: names that glorify, perpetuate, promote or symbolize the occupying state or its significant, memorable, historical and cultural places, cities, dates, events, its figures who carried out military aggression against Ukraine and other sovereign countries, figures who carried out state totalitarian policies and practices related to the persecution of the opposition (opposition figures), dissidents and other persons for criticism of the totalitarian Soviet and totalitarian Russian regimes, including citizens of Ukraine who live on the temporarily occupied territories of Ukraine or were temporarily on the territory of the occupying state and became victims of persecution by Russian repressive bodies» *(Pro heohrafichni nazvy shchodo dekolonizatsii…)*. This Law and its amendments ensure the continuity and consistency of the policy of decommunization, which has been actively implemented since the Revolution of Dignity.

The next step of the legislators was the adoption of the Law of Ukraine «On Condemnation and Prohibition of Propaganda of Russian Imperial Policy in Ukraine and Decolonization of Toponymy», which entered into force on July 27, 2023 *(Pro zasudzhennia ta zaboronu propahandy rosiiskoi…)*. In order to prevent the spread of Russian propaganda symbols, the Law establishes certain restrictions and prohibitions, in particular, regarding the following positions: 1. Assigning to geographical objects, legal entities and objects of the right of ownership:

names containing the symbols of Russian imperial policy, as well as glorifying, perpetuate, promote the terrorist state (aggressor state) or its memorial, historical and cultural places, settlements, dates, events; 2. Production and distribution of symbols of Russian imperial policy; 3. Public use of symbols of Russian imperial policy *(Takhtaulova, 2023: 14)*. The legislator also determined that village and city councils, military administrations of settlements, military-civilian administrations of settlements, or village and city mayors are responsible for changing toponyms and memorial signs within named settlements until January 27, 2024 *(Pro zasudzhennia ta zaboronu propahandy rosiiskoi…)*. In order to implement these requirements of the Law, the local authorities of Zaporizhzhia derussified almost 70 streets and alleys, the names of which were associated with Russia or the former USSR *(U Zaporizhzhi pereimenovano…)*. Commenting on this decision, the secretary of the Zaporizhzhia City Council, Anatoliy Kurtev, notes that «as a result of the decisions taken in Zaporizhzhia, there are now the streets named after Prince Volodymyr, Ataman Ivan Pidkova, the regiment of Black Zaporozhians, etc. » *(Vidteper bez Moskovskoi, Kurskoi ta Pushkina…)*. Names dedicated to settlements or regions of Russia (Moscow, Kursk, Smolensk, Rostov), as well as a number of other names, have disappeared from the city map. *(Perelik aktualnykh pereimenuvan…)*. Also, by decision of the Zaporizhzhia City Council No. 2 dated 12.10.2022, Pushkin Square became Volodymyr Vernadskyi Square, and Lermontov Street was renamed in honor of Viacheslav Zaitsev, a Zaporizhia historian, a participant of the Russian-Ukrainian war, who died during the full-scale Russian invasion in Ukraine *(Perelik aktualnykh pereimenuvan…)*.

To a large extent, the decolonization process in Zaporizhzhia reflects a nationwide trend to avoid symbols associated with the Soviet and Russian imperial past. City toponyms, streets and squares, which were named after Soviet figures and Russian imperial figures, are gradually being replaced by Ukrainian symbols. This process had not only a political, but also a cultural and psychological impact on the local population, as the reinterpretation of Soviet history became an important component of the formation of a new national identity. According to the results of the study, which was conducted as part of the «Transparent Cities» program, it was found that in the process of decolonization of names in 83 cities of 23 regions of Ukraine in the period from March 2022 to May 28, 2024, 7,800 toponyms were renamed. Among the cities-leaders of derussification is Zaporizhzhia, in which 303 toponyms were renamed during the period from February 24, 2022 to May 28, 2024 *(Onyshchenko, 2024)*.

One of the vivid examples of the implementation of decolonization in Zaporizhzhia was the creation of new memorials dedicated to Ukrainian soldiers who died during the Russian-Ukrainian war (information stelae near the city council with information about the defenders of Ukraine, the «Iron Throne» in Prykordonnyky Square, etc.). Such memorials not only replaced Soviet monuments, but also reflect the process of decolonization, transformation of historical memory, and become an integral element of the formation of the citizens' national identity.

Evaluating the successes of decolonization and analyzing the processes launched by the Law of Ukraine «On Condemnation and Prohibition of the Propaganda of Russian Imperial Policy in Ukraine and Decolonization of Toponymy», the Head of the Ukrainian Institute of National Memory (UINM) Anton Drobovych emphasized that these processes are natural and useful «for the understanding of who we are, and also useful for the emergence of a new symbolic space associated with the own past of specific settlements, which was distorted, erased under the layering of imperial myths, forgotten» *(Derusyfikatsii bude potribna dodatkova…)*.

Thus, from 2014 to 2023, Ukraine was renamed: about a thousand settlements and 26 districts, almost 52 thousand other toponyms, 75 educational institutions, 33 railway facilities,

2 sea ports, about 2.5 thousand monuments and memorial signs, which contained the propaganda of the totalitarian regime, were dismantled *(Mokan, 2023)*. Such a significant number of renaming and dismantling of symbols of the imperial and Soviet totalitarian past can testify to the organic nature of the processes of derussification and de-Sovietization in Ukraine. The legislative framework adopted after 2015, including the Law «On Condemnation of Communist and National Socialist (Nazi) Totalitarian Regimes in Ukraine», has become a powerful tool for the implementation of decolonization processes. Particularly important are the changes to the Law adopted in 2023, which expanded the boundaries of decolonization to the level of not only communist, but also Russian-imperial symbols, which had an impact on the formation of the cultural and social identity of local communities. But at the same time, we cannot talk about the final completion of the processes of decolonization, decommunization and derussification in Ukraine, because the following factors slow down this process: criticism of both the process itself and new names; the need for clarifications from specialized institutions (UINM, MCIP) regarding whether the name is the subject to the law on derussification of toponymy; a long search for new names or the discussion of individual options; the desire of residents to use depersonalized names (decolonization aims not only to abandon imperial markers, but also to create new social patterns); illogical choice of names or reasons for decolonization; neutral names or assignment of meaningful names to objects on the outskirts of cities; limited time for public discussion of new titles *(Onyshchenko, 2024)*. And also insufficient discussion of decolonization processes in Ukraine in the media space – with an expert explanation of the relevance and necessity of these initiatives, interpretation of implementation tools, explanation of specific cases.

Thus, according to the indicators of the monitoring Internet resource Brand24, a review of the Ukrainian legislation on decommunization, its implementation, removal from circulation of communist symbols in the national information space from 2015 showed the following data: coverage in the information space (reach) – 59 thousand, share of voice (share of voice), which is measured with a percentage of publications about the concept from the total amount of mentions of the discourse, in other words, the «media visibility» of the concept is 57.35% (fig. 1). It is interesting that the «linguistic/mood/connotative» tone of mentions in the media on various platforms has the following indicators: 11% – positive, 63% – neutral, 26% – negative. In general, discussions about decommunization processes in Ukraine, including the renaming of public space due to the removal of references to Russian political and cultural figures, are represented in the media (websites, forums, podcasts, certain social networks, etc.) with the following data: coverage in the information space (reach) – 44 thousand, «media visibility» – 42.65%, the tone of mentions in the media is either neutral (45%) or negative (55%) (fig. 1).

Zaporizhzhia became a vivid example of a city that actively accepted the challenges of derussification and decommunization. Over 300 streets and public places have been renamed in recent years, and dozens of monuments devoted to Soviet figures have been dismantled or replaced with new symbols reflecting Ukrainian statehood and national identity. In the context of the intensification of processes after the beginning of Russian aggression in 2014, special attention was paid to the creation of new national symbols in the public space, which became an important element in the formation of a new Ukrainian identity. This process was accompanied not only with the renaming of toponyms, but also with the opening of new memorials that immortalize the heroes of modern struggle of Ukraine for independence, including the participants of the ATO/JFO and the national liberation movement.

The informational and cognitive dynamics of society in the context of the discourse of decolonization, derussification, and decommunization of the urban space of
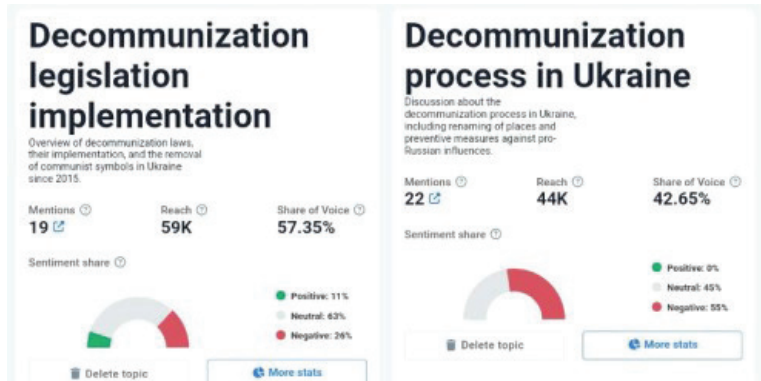
Fig. 1. Media mentions of decommunization legislation and decommunization processes in Ukraine (since 2015). Screenshots of infographics of the monitoring online resource Brand24

Zaporizhzhia in the period from 2014 to 2023 is also evidenced by the actualization of media coverage, and the possibility of involving citizens in the decolonization processes of their settlement by sending appeals to the website of the Government Contact Center. Among the institutionalized telegram channels dedicated to the issue of decolonization in the regions, it is worth mentioning «Decolonization. Ukraine» that is «a project to clean our country of occupation markers and street names» *(Telehram-kanal «Dekolonizatsiia. Ukraina»)*, which has 6,924 subscribers on October 9, 2024. The ideology of the project «Decolonization. Ukraine» was based on the personal experience of co-founder Vadym Pozdniakov, whose relatives suffered from the Holodomor and dispossession by the Soviet authorities, «so he did not want to see the names of streets and monuments in his hometown in honor of executioners, such as Hryhoriy Petrovskyi, Stanislav Kosior, Vlas Chubar and etc... in order to clean up the public space of his city, in 2017, together with like-minded people, he launched an initiative called "Decommunization. Kharkiv"» *(Mazepa, 2023)*, which eventually scaled to all-Ukrainian. Therefore, the website, Telegram channel and Instagram channel (1465 readers) of the project are information and communication platforms, where not only the community is informed about changes, but also citizens' reflections are collected in the form of comments, reactions, hashtags, reposts, etc. In an interview with the «Ukraïner» project, Vadym Pozdniakov outlined ways to involve citizens in the decolonization process, in particular by joining the project, namely by sending information about the object, filling out a form on the website, contacting on Instagram or sending information via e-mail (photo (from afar and up close); the location of the object that needs to be renamed or dismantled; a brief description). This information the project team processes and contacts in the future with the citizen who filled the form *(Mazepa, 2023)*.

In particular, the Telegram channel of the project uses public relations for the implementation of special projects, for example, the «great derussification of bookshelves». It offers addresses, data of contact persons in the cities of Ukraine, including Zaporizhzhia, who deal with the collection of waste paper, the funds from the processing of which were aimed at the vehicle for the mobile fire group of air defense in those directions where the routes of the Shaheds most often intersect (publication dated March 10, 2023).

148

An interesting case is the one of spread of the option of an active Google form for choosing new street names in Zaporizhzhia, which is active for channel subscribers, makes it possible to rally around the issue a passionate part of citizens who are interested in this topic, as evidenced by their presence on the channel, and statistics infographics, expert reposts articles increase awareness in order to make the most optimal decision by the community (e.g., we are talking about V. Viatrovich's article «Renaming Zaporizhzhia: Incompetence or Sabotage» (fig. 2).
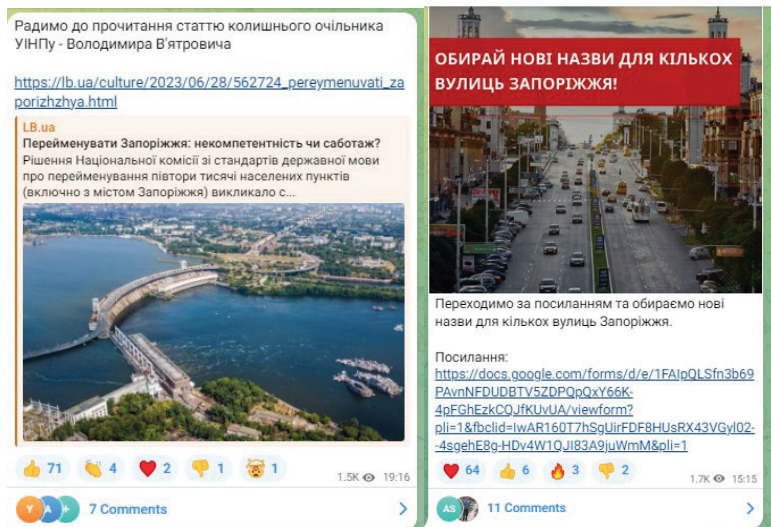
Fig. 2. Screenshot of posts of the official Telegram channel «Decolonization. Ukraine» (publications dated August 23, 2023 and June 29, 2023)

With the help of the Internet space monitoring program Brand24, we were able to trace the indicators of popularization of this topic in the media over the last year (from October 9, 2023 to October 9, 2024). Taking into account the previous indicators, in particular, the destructive trend in the tone of mentions (and this includes comments, and forums, and sites, etc.), which, in our opinion, is caused by insufficient popularization, limited time for public discussions, etc., it is important to identify context field of the concept «decommunization/decolonization» using the Brand24 (09.10.2023 – 09.10. 2024): «Ukraine without shit», «derussification», «renaming», «sovok», «Pushkin», «empire», «war», «monuments», Odesa as the most often mentioned settlement in the context, etc. The data is also confirmed by the hashtag trends (Trending hashtags) detected by the monitoring program (the first ten in the order of the rating constructed by the program are record; in brackets – the number of mentions in the media during the period 09.10.2023-09.10. 2024): #decommunization (60), #Ukraine (36), #decolonization (30), #empire (23), #sovok (23), #Ukrainebezlaina (23), #Odesa (13), #Odessa (9), #Pushkin (8), #renaming (7).

Among the information platforms, the program found the most mentions on Tik-Tok and YouTube, where, in fact, «Odesacity» also prevails with the hashtags #сноспамятников (in Russian), #пушкин (in Russian), #shadowofpushkin, #Odesa is reviving, decommunization is flourishing (fig. 3).
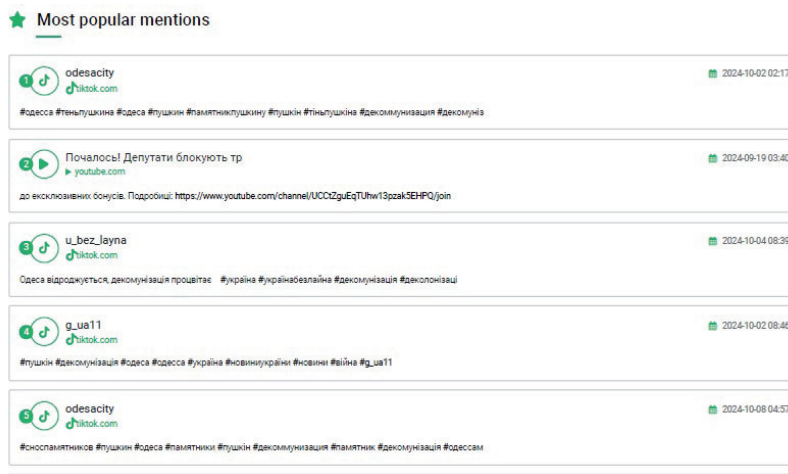
Fig. 3. The most popular mentions of the concept of decommunization in Ukraine (October 9, 2023 – October 9, 2024) according to Brand24

It should be noted that Odesa, among the settlements mentioned in the context of decommunization processes, prevails, which, in our opinion, is connected with pro-Russian political and ideological stereotypes about Odesa, on the one hand, which provokes discussion in the media, and, on the other hand, with the large-scale project «Odesa Decolonization», launched in February 2024 by the Odesa Business Club in cooperation with USAID, where the main goals are stated to be «the study of existing myths about Odesa and the creation of a platform for communication: involving everyone who cares about the topic of rethinking national identity and mental decolonization from further public discussion» (*Dekolonizatsiia pochynaietsia z tebe*). And this again proves that the informational and cognitive dynamics of society in the context of rethinking values and national identification practices depends, among other things, on the «agenda» of public initiatives, their communication capabilities, media visibility of the topic in the information space

5. Conclusions

The conducted study of the processes of decolonization, derussification and decommunization of the urban space of Zaporizhzhia in the period of 2014–2023 made it possible to draw important conclusions. The adoption of laws in 2015 and 2023 became a powerful tool for cleaning the public space of the city of Zaporshzhzhia from totalitarian symbols. These regulations provided the legal basis for the dismantling of Soviet monuments and the renaming of toponyms associated with the Soviet and Russian imperial heritage. Sociological studies confirm that the initial ambiguous attitude towards the decommunization processes in Zaporizhzhia gradually transformed into significant support from the population, especially after the beginning of the Russian large-scale invasion in 2022. This indicates deep changes in public consciousness and rethinking of national identity. The active participation of public organizations and cultural institutions played a key role in the implementation of decolonization processes. Working groups engaged in the inventory of Soviet objects and public discussions contributed to the formation of new toponyms that reflect the modern Ukrainian identity.

Apart from the dismantling of Soviet symbols, derussification, which intensified after 2014, became an important step on the way to overcoming the imperial legacy. The renaming of streets and squares in honor of modern heroes of Ukraine became a powerful symbol of the new national identity. Russia's large-scale invasion of Ukraine in 2022 became a catalyst for accelerating the processes of decolonization and derussification in Zaporizhzhia and other regions of the country. The increasing level of support for the dismantling of Soviet monuments and the replacement of toponyms indicate the importance of breaking with the colonial past. However, in the national context, the level of informational and cognitive dynamics of society as a whole is also evidenced by destructive facts – rather low visibility of the topic in the media, still quite high indicators of mentions in the media with negative connotations (according to Brand24 monitoring data), the absence of sustainable media mentions of Zaporizhzhia in the associative context with decommunization. Although hashtag trends testify to the conceptual field of decolonization, which consists of processes of derussification, renaming, dismantling/changing of monuments, removal of «sovok» and «empire» markings, reinterpretation of Russian culture in the person of «Pushkin» during war.

Further researches may focus on studying the social and cultural consequences of decolonization in different regions of Ukraine, as well as comparing the experience of Zaporizhzhia with other post-Soviet countries. In addition, it is worth investigating the role of new national symbols in public space and their influence on the formation of public consciousness.

References

1. Bhabha, H. K. (1994). The Location of Culture. London: Routledge.
2. Butko, S., Horobets, S., Karetnikov, I., Korolenko, B. & Maiorov, M. (Eds.). (2015). Dekomunizatsiia: shcho i chomu pereimenovuvaty y demontuvaty [Decommunization: what and why to rename and dismantle]. Ukrainskyi instytut natsionalnoi pamiati. Kyiv. URL: http://cg.gov.ua/web_docs/1/2015/12/docs/dekomunizaciya._shcho_y_chomu_pereymenovuvati_i_demontovuvati.pdf [in Ukrainian]
3. Connerton, P. (1989). How societies remember / Paul Connerton. Cambridge University Press.
4. Dekolonizatsiia pochynaietsia z tebe. [Decolonization starts with you]. Odesa Decolonization. Retrieved from: https://www.odesadecolonization.org/ [in Ukrainian]
5. Derusyfikatsii bude potribna dodatkova zakonodavcha rehlamentatsiia. [De-Russification will require additional legislative regulation]. Interfaks-Ukraina. Retrieved from: https://ua.interfax.com.ua/news/general/829741.html [in Ukrainian]
6. Desiate zahalnonatsionalne opytuvannia: Ideolohichni markery viiny (2022) [Tenth National Survey: Ideological Markers of War (April 27, 2022)]. Sotsiolohichna hrupa «Reitynh». Retrieved from: http://ratinggroup.ua/getfile/606/rg_ua_1000_ideological_markers_ua_042022_press.pdf [in Ukrainian]
7. Dronova, K., Stadny, Y. (2015). Dekomunizatsiini zakony: propozytsiia pravok [The «Decommunization Laws»: a proposal of amendments]. Krytyka, traven. Retrieved from: https://krytyka.com/ua/solutions/opinions/ [in Ukrainian].

8. Druha sesiia miskoi rady 19.02.2016: Rishennia miskoi rady. [2nd session of the city council 02/19/2016: Decision of the city council]. Zaporizka miska rada. Retrieved from: https:// zp.gov.ua/uk/sessions/40/resolutions/4 [in Ukrainian]

9. Dziuba, I.M. (2005) Internatsionalizm chy rusyfikatsiia?[Internationalism or Russification?]. Kyiv: Kyievo-Mohylian. akad. [in Ukrainian]

10. Haidai, O. (2016). Kam'janyj ghistj. Lenin v centraljnij Ukrajini [The Stone Guest. Lenin in Central Ukraine], Kyiev: Laurus [in Ukrainian]

11. Hnatiuk, O., Melnichuk, A. (2020). Prostorovo-chasovi aspekty dekomunizatsii toponimiky mista Kyieva. [Spatial-temporal aspects of toponymy decommunization in the city of Kyiv]. Ideologiya ta polityka, №1(15), 84–114. https://doi.org/10.36169/2227-6068.2020.01.00005 [in Ukrainian]

12. Hrytsenko, O. (2014). Pam'iat' mistsevoho vyrobnytstva. Transformatsiia symvolichnoho prostoru ta kul'tury pam'iati v malykh mistakh Ukrainy [Memory of local production. Transformation of symbolic space and culture of memory in small towns of Ukraine]. Kyiv: «K.I.S.» [in Ukrainian]

13. Kasianov, G. (2022). Memory Crash: Politics of History in and around Ukraine, 1980s–2010s. Central European University Press. http://www.jstor.org/stable/10.7829/j. ctv1c3pd8w.

14. Koinash, H. (2015). «Dekomunizatsiini» zakony: nebezpechnyi potentsiial siiannia rozbratu i garantovanyi sudovyi rozghliad u Strasburzi [«Decommunization Laws»: dangerous potential of discord and guaranteed court case in Strasbourg]. Krytyka, May. Retrieved from: https://krytyka.com/ua/solutions/opinions/ [in Ukrainian].

15. Konsultatsii z hromadskistiu. Zaporizka miska rada [Consultations with the public. Zaporizhzhia City Council]. Zaporizka miska rada. Retrieved from: https://zp.gov.ua/uk/page/konsultacii-z-gromadskistyu [in Ukrainian]

16. Kulyk, V. (2015). Pro neiakisni zakony ta nechutlyvykh krytykiv [On flawed laws and insensitive critics]. Krytyka. Retrieved from: https://krytyka.com/ua/solutions/opinions/pro-neyakisni-zakony-tanechutlyvykh-krytykiv [in Ukrainian]

17. Kyrydon A. (2015). Polityka pamiati v Ukraini (1991–2015 rr.)[Politics of memory in ukraine (1991–2015 years)]. Ukraina-Yevropa-Svit. Mizhnarodnyi zbirnyk naukovykh prats.. Seriia: Istoriia, mizhnarodni vidnosyny. № 15. S. 244-250 [in Ukrainian]

18. Kyrydon, A. (2016). Heterotopii pamiati. Teoretyko-metodolohichni problemy studii pamiati. [Heterotopias of memory. Theoretical and methodological problems of memory studies]. Kyiv: Nika-Tsentr [in Ukrainian]

19. Lisovskyj, A.S., Prydetkevych, S.S., Matuz O.V. (2024). Derusyfikatsiia ta dekomunizatsiia heohrafichnykh nazv v mezhakh Khmelnytskoi oblasti. [Derussification and decommunisation of geographical names within the Khmelnytskyi region]. Naukovi zapysky Ternopilskoho natsionalnoho pedahohichnoho universytetu imeni Volodymyra Hnatiuka. Ser. Heohrafiia. Ternopil: FOP Osadtsa Yu. V., № 1 (56), 103-110. https://doi.org/10.25128/2519-4577.24.1.12 [in Ukrainian]

20. Lugones María. (2007). Heterosexualism and the Colonial / Modern Gender System. Hypatia: A Journal of Feminist Philosophy, 22(1), 186–209. https://doi.org/10.2979/ hyp.2007.22.1.186.

21. Males, L. V. (2016). Dekomunizacija stolyci: zminy v urbanonimiji (metody, pershi rezuljtaty) [Capital decommunization: changes in urbanonymy (methods, first results)]. Visnyk Kharkivsjkogho nacionaljnogho universytetu imeni V. N. Karazina. Serija: Sociologhichni doslidzhennja suchasnogho suspiljstva: metodologhija, teorija, metody – Bulletin of the

V.N. Karazin Kharkiv National University: Sociological studies of modern society: methodology, theory, methods, 36, S. 62–67 [in Ukrainian]

22. Mazepa, Ya. (2023). Dekolonizatsiia: yak ochystyty prostir vid rosiiskoho. [Decolonization: how to clear space from Russian]. Ukraïner. Retrieved from: https://www.ukrainer.net/dekolonizatsiia/ [in Ukrainian]

23. Mignolo, W. D. (2002). The Geopolitics of Knowledge and the Colonial Difference. South Atlantic Quarterly, 101(1), 57–96. https://doi.org/10.1215/00382876-101-1-57.

24. Mokan, V. (2023) «Dekomunizatsiia zapustyla protsesy suttievoi zminy stavlennia hromadian do nashoi istorychnoi pamiati» [Decommunization launched processes of a significant change in the attitude of citizens to our historical memory]. Verkhovna Rada Ukrainy. Retrieved from: https://www.rada.gov.ua/news/news_kom/234624.html [in Ukrainian]

25. Motyl, A. (2015). De-Communization, Hannah Arendt, and Ukrainian Nationalism. World Affairs. July 28. Retrieved from: http://worldaffairsjournal.org/blog/alexander-j-motyl/de-commu nizationhannah-arendt-and-ukrainian-nationalism

26. Nahorna, L. P. (2012). Istorychna pamiat: teorii, dyskursy, refleksii.[Historical memory: theory, discourse and reflections]. Kyiv: IPiEND im. I. F. Kurasa NAN Ukrainy [in Ukrainian]

27. Onyshchenko, V. (2024). Protystoiannia z imperiieiu: yak ukrainski mista ostanni dva roky pereimenovuvaly toponimy? [Confrontation with the empire: how have Ukrainian cities been renamed toponyms in the last two years?]. Transparent Cities. Retrieved from: https://transparentcities.in.ua/articles/protystoiannia-z-imperiieiu-yak-ukrainski-mista-ostanni-dva-roky-pereimenovuvaly-toponimy [in Ukrainian]

28. Onyshchenko, V. (2024). Suvorov prohrav, Shchors upav: yak zminyvsia miskyi prostir Ukrainy za dva roky? [Suvorov lost, Shchors fell: how has the urban space of Ukraine changed in two years?]. Transparent Cities. Retrieved from: https://transparentcities.in.ua/articles/suvorov-prohrav-shchors-upav-yak-zminyvsia-miskyi-prostir-ukrainy-za-dva-roky [in Ukrainian]

29. Pavlenko, I. (2020) Deradianizatsiia ta dekomunizatsiia ukrainskoho urbanimikonu (na materiali nazv obiektiv miskoho prostoru Zaporizhzhia) [Desovetization and decommunization of the Ukrainian urbanimicon (on the material of Zaporizhzhia place names)]. №1(15). S. 188-27 https://doi.org/10.36169/2227-6068.2020.01.00009 [in Ukrainian]

30. Perelik aktualnykh pereimenuvan stanom na 01.08.2023. [List of actual renamings as of August 1, 2023.]. Zaporizka miska rada. Retrieved from: https://zp.gov.ua/upload/editor/perejmenuvannya__stanom__na__01-08-2023.pdf [in Ukrainian]

31. Petytsiia «Pro dotsilne vykorystannia pamiatnyka leninu» [Petition «On the appropriate use of the Lenin monument»]. Retrieved from: https://petition.e-dem.ua/zaporizhzhia/Home/About [in Ukrainian]

32. Ponad 50 tysiach vulyts zminyly nazvy vprodovzh 2016 roku [Over 50,000 streets were renamed in 2016]. Uriadovyi portal. Retrieved from: https://www.kmu.gov.ua/news/249624004 [in Ukrainian]

33. Pro heohrafichni nazvy shchodo dekolonizatsii toponimii ta vporiadkuvannia vykorystannia heohrafichnykh nazv u naselenykh punktakh Ukrainy [«On Geographical Names» on Decolonization of Toponymy and Regulation of the Use of Geographical Names in Ukrainian Settlements]. Retrieved from: https://itd.rada.gov.ua/billInfo/Bills/Card/39367 [in Ukrainian]

34. Pro pereimenuvannia ploshchi Lenina v misti Zaporizhzhi na ploshchu Zaporizku [About the renaming of Lenin Square in the city of Zaporizhia to Zaporizhia Square]. Zaporizka miska rada. Retrieved from: https://zp.gov.ua/uk/documents/item/22893 [in Ukrainian]

35. Pro vnesennia zmin do rozporiadzhennia miskoho holovy vid 02.07.2015 №180r [On making changes to the order of the city mayor dated 02.07.2015 No. 180p]. Zaporizka miska rada. Retrieved from: https://zp.gov.ua/uk/documents/item/28289 [in Ukrainian]

36. *Pro zasudzhennia komunistychnoho ta natsional-sotsialistychnoho (natsystskoho) totalitarnykh rezhymiv v Ukraini ta zaboronu propahandy yikhnoi symvoliky».* (2015) [On the condemnation of the communist and national socialist (Nazi) totalitarian regimes in Ukraine and the prohibition of propaganda of their symbols]. *Verkhovna Rada Ukrainy. Retrieved from: https://zakon.rada.gov.ua/laws/show/317-19#Text [in Ukrainian]*

37. *Pro zasudzhennia ta zaboronu propahandy rosiiskoi imperskoi polityky v Ukraini i dekolonizatsiiu toponimii.* (2023). [About the condemnation and prohibition of propaganda of Russian imperial policy in Ukraine and the decolonization of toponymy]. *Verkhovna Rada Ukrainy. Retrieved from: https://zakon.rada.gov.ua/laws/show/3005-20#Text [in Ukrainian]*

38. *Quijano, A. (2007). Coloniality and modernity/rationality. Cultural Studies (London, England), 21(2–3), 168–178. https://doi.org/10.1080/09502380601164353.*

39. *Riabchuk, M. (2011). Postkolonialnyi syndrom. Sposterezhennia. [Postcolonial syndrome. Observation]. Kyiv: "K.I.S." [in Ukrainian]*

40. *Rozporiadzhennia miskoho holovy №85r vid 20.02.2016 [Mayor's Order No. 85 dated February 20, 2016]. Zaporizka miska rada. Retrieved from: https://zp.gov.ua/uk/documents/item/22893 [in Ukrainian]*

41. *Said, Edward W. (1995). Orientalism: Western Conceptions of the Orient. London: Penguin.*

42. *Shapoval, Y., Vasylieva, I., Matviienko, I. (2020). Ukrainske suspilstvo u 2014–2020 rr.: problemy polityky dekomunizatsii [Ukrainian Society in 2014-2020: Problems of Decommunization Politics]. Ukrainskyi istorychnyi zhurnal. № 4, 110-124. https://doi.org/10.15407/uhj2020.04.110 [in Ukrainian]*

43. *Shapoval, Yu. (2021). Antykryzovyi resurs polityky pamiati v Ukraini. [Anti-crisis resource of memory policy in Ukraine]. Political Studies, 2, 111-134. DOI: https://doi.org/10.53317/2786-4774-2021-2-6 [in Ukrainian]*

44. *Shteinle, O. (2018) Nimetske pytannia v zaporizkii dekomunizatsii [The German question in the Zaporizhzhia decommunization]. №50, S. 155-159 https://doi.org/10.26661/swfh-2018-50-012 [in Ukrainian]*

45. *Spivak, G. C. (1988). Can the Subaltern Speak? In C. Nelson, & L. Grossberg (Eds.), Marxism and the Interpretation of Culture. Urbana/Chicago: University of Illinois Press.*

46. *Stavlennia do okremykh istorychnykh postatei ta protsesu dekomunizatsii v Ukraini (2016). [Attitudes towards individual historical figures and the process of decommunization in Ukraine (November 2016)]. Sotsiolohichna hrupa «Reitynh». Retrieved from: https://ratinggroup.ua/files/ratinggroup/reg_files/de-communization_rg_112016.pdf [in Ukrainian]*

47. *Surchenko, S. (2015). Pereimenuvannia vulyts u Zaporizhzhi. [Renaming of streets in Zaporizhzhia]. Natsionalna spilka kraieznavtsiv Ukrainy. Retrieved from: https://nsku.org.ua/?p=6253 [in Ukrainian]*

48. *Takhtaulova, M. (ed.). (2023). Zbirnyk materialiv, rekomendatsii i dokumentiv shchodo vykonannia vymoh Zakonu Ukrainy «Pro zasudzhennia ta zaboronu propahandy rosiiskoi imperskoi polityky v Ukraini i dekolonizatsiiu toponimii». [The collection of materials, recommendations and documents was submitted to the Law of Ukraine «On the Judgment and Defense of the Propaganda of Russian Imperial Policy in Ukraine and the Decolonization of Toponymy»]. Kyiv: «Smoloskyp» [in Ukrainian]*

49. *Telehram-kanal «Dekolonizatsiia. Ukraina» [Telegram channel «Decolonization. Ukraine»]. Retrieved from: https://t.me/DecolonizationUkraine [in Ukrainian]*

50. *U Zaporizhzhi pereimenovano shche ponad 70 vulyts, provulkiv ta prospektiv. [More than 70 streets, alleys and avenues were renamed in Zaporizhzhia]. Zaporizka miska rada. Retrieved*

from: https://zp.gov.ua/uk/articles/item/19789/u-zaporizhzhi-perejmenovano-sche-ponad-70-vulic-provulkiv-ta-prospektiv [in Ukrainian]

51. Umland, A. (2015). Sylvester Stallone kak bokser, ili Effekt zrelishchnosty [Sylvester Stallone as a boxer, or The performance effect]. Novoe vremia. 28.05.2015. Retrieved from: https://nv.ua/opinion/umland/silvestr-stallonekak-bokser-ili-effekt-zrelishchnosti-50871.html/

52. Viatrovych, V. (2015). Dekomunizatsiia i akademichna dyskusiia [Decommunization and academic discussion]. Krytyka, 2015, traven. Retrieved from: https://krytyka.com/ua/solutions/opinions/dekomunizatsiya-i-akademichna-dyskusiya. [in Ukrainian]

53. Vidteper bez Moskovskoi, Kurskoi ta Pushkina: u Zaporizhzhi pereimenuvaly blyzko 70 toponimiv. [From now on, without Moskovska, Kurska and Pushkin: about 70 toponyms were renamed in Zaporizhzhia]. Espreso.tv. https://espreso.tv/vidteper-bez-moskovskoi-kurskoi-ta-pushkina-u-zaporizhzhi-pereymenuvali-blizko-70-toponimiv [in Ukrainian]

54. Vodotyka, S., Savenok, L. (2017). Urban space, decommunisation and the problems of historical memory. City: history, culture, society, 1, 119-133. http://jnas.nbuv.gov.ua/article/UJRN-0000675474 [in Ukrainian]

55. Zvit Ukrainskoho instytutu natsionalnoi pamiati z realizatsii derzhavnoi polityky u sferi vidnovlennia i zberezhennia natsionalnoi pamiati u 2016 rotsi. [Report of the Ukrainian Institute of National Memory on the implementation of state policy in the field of restoration and preservation of national memory in 2016]. Ukrainskyi instytut natsionalnoi pamiati. Retrieved from: https://old.uinp.gov.ua/page/zvit-ukrainskogo-institutu-natsionalnoi-pam-yati-z-realizatsii-derzhavnoi-politiki-u-sferi-vidn [in Ukrainian]

THE PRICE OF TRUTH: THE IMPACT OF WAR ON JOURNALISTIC FREEDOM AND NEWS CONTENT IN UKRAINE

Vadym Halaziuk

Postgraduate Student, Kyiv University of Culture, Ukraine
e-mail: galazjukvadim@gmail.com, orcid.org/0009-0006-9636-9145

Summary

The aim of this paper is to analyze how the ongoing war with Russia, starting on February 24, 2022, has influenced the freedom of journalistic activity and the content of news in Ukraine, using the example of the publication "Ukrainska Pravda." The study examines the specific challenges that have emerged under the conditions of military aggression, including legal restrictions, economic pressures on media outlets, and the ethical dilemmas faced by journalists in balancing the public's right to know with considerations of national security. The paper explores how censorship and self-censorship have impacted independent media in Ukraine, altering both the accessibility and depth of information available to the public. Methods applied in this research include general scientific approaches (such as analysis and synthesis, induction and deduction), theoretical frameworks (from abstract to concrete), and the historical method, enabling a comprehensive view of the shifts in Ukrainian journalism in wartime. Through this examination, the study highlights the sacrifices and complexities involved in maintaining the integrity and independence of journalism under extreme political and social conditions.

Key words: censorship, self-censorship, information access, media independence, reporting challenges, wartime journalism, public perception, truth-telling.

1. Introduction

Journalism serves as a cornerstone of democratic societies, fostering transparency, accountability, and an informed public. However, during times of conflict, the role of journalism becomes increasingly complex and fraught with danger, especially in contexts where freedom of the press is under significant threat. In Ukraine, the full-scale invasion by Russia, which began on February 24, 2022, has placed extraordinary pressures on journalists and news organizations. These pressures, ranging from physical dangers to digital surveillance and political influence, have reshaped the media landscape in Ukraine, challenging the fundamental principles of journalistic freedom and independence.

This study centers on the case of *Ukrainska Pravda*, one of Ukraine's leading news outlets, which has become a vital source of information during the ongoing conflict. The outlet's coverage and journalistic practices provide a lens through which to examine the larger trends affecting Ukrainian journalism. Wartime conditions impose specific constraints that influence both the scope of information available to journalists and the ways in which this information is reported. These conditions frequently necessitate forms of self-censorship, heightened editorial scrutiny, and, at times, governmental intervention, all of which have a profound impact on news content and the public's access to reliable information.

The purpose of this paper is to analyze the impact of the war on journalistic freedom in Ukraine, particularly within *Ukrainska Pravda*. Through a combination of content analysis and

examination of journalistic practices under wartime pressures, this paper seeks to understand how war influences the nature of news production and dissemination. Additionally, it investigates the risks and ethical dilemmas faced by Ukrainian journalists, who strive to uphold the values of transparency and truth-telling while navigating an increasingly hostile environment. By examining the intersection of journalism and conflict in Ukraine, this paper contributes to broader discussions on the role and resilience of journalism in upholding truth during times of crisis.

2. Challenges to Journalistic Freedom in Wartime

Wartime journalism is an essential yet perilous undertaking, requiring journalists to operate in environments of heightened risk, both physical and legal. These challenges are intensified in Ukraine, where the conflict with Russia, which escalated into a full-scale invasion in February 2022, has significantly curtailed the freedom of journalists. While the press plays a vital role in informing both local and global audiences, the obstacles they face in doing so under wartime conditions are numerous and multifaceted. This section explores the key challenges to journalistic freedom during times of conflict, focusing on censorship, self-censorship, legal restrictions, and the physical and psychological threats facing journalists.

One of the most prominent challenges is censorship, often imposed by governments in the name of national security. During times of war, governments frequently resort to restricting the press to control the narrative, particularly in sensitive areas like military operations and diplomatic efforts. These measures are commonly justified by the need to protect military secrets and maintain public morale, but they simultaneously restrict the flow of accurate information. In Ukraine, these pressures are palpable, as the government has enacted laws aimed at countering disinformation, which, while necessary in some contexts, can also lead to overreach and the suppression of legitimate journalistic inquiry *(Nordenstreng, 2007)*.

Legal restrictions have been put in place that, on the surface, aim to combat the spread of Russian propaganda and misinformation, but in practice, they also create an atmosphere where journalists must tread carefully to avoid legal consequences. This type of censorship can be direct–through government intervention in media operations–or indirect, with media outlets fearing repercussions for publishing content that may be interpreted as harmful to national interests. For example, laws related to wartime propaganda often have broad definitions, leaving journalists in a precarious position, unsure of whether their reporting might inadvertently cross legal boundaries. The Ukrainian Law on Information, particularly in times of military conflict, includes clauses that allow authorities to restrict access to sensitive materials, limit coverage on military operations, and prosecute individuals spreading what may be interpreted as false information *(Vladimirova & Reshetnikov, 2020)*.

While external censorship is a clear challenge, an equally significant issue is self-censorship, where journalists limit their own reporting to avoid potential backlash or legal penalties. Self-censorship can manifest in several ways, including the omission of controversial details, the avoidance of specific topics, or the downplaying of critical viewpoints that may contradict official narratives. This form of internalized control is a common coping mechanism for journalists operating in dangerous or repressive environments. In Ukraine, where the threat of legal action or retribution from both government authorities and the public is high, self-censorship has become a common strategy among media professionals. The rise of self-censorship in Ukrainian media is not only a reflection of fear for personal safety but also a survival mechanism for media organizations that must remain operational in a war-torn economy with limited resources and government support *(Vladimirova & Reshetnikov, 2020)*.

In addition to legal and self-imposed restrictions, Ukrainian journalists face the physical dangers that come with reporting in a conflict zone. The Committee to Protect Journalists (CPJ) has recorded numerous instances of Ukrainian and foreign journalists being injured, detained, or even killed while covering the war. Frontline reporting is particularly hazardous, with journalists risking their lives to provide accurate and timely information about the developments in conflict zones. The war has also seen an increase in the targeting of journalists by both military and paramilitary groups, especially in areas under direct Russian control. The deliberate targeting of media personnel in occupied territories or during military operations represents a significant escalation in the risks faced by reporters. This targeting often includes detentions, intimidation, and, in some cases, the assassination of journalists deemed to be spreading "dangerous" or "unfavorable" news about the conflict *(Committee to Protect Journalists, 2022)*.

The psychological toll of reporting under constant threat of violence cannot be understated. Many journalists, particularly those covering the war from the frontlines, experience symptoms of trauma, including post-traumatic stress disorder (PTSD). This mental burden compounds the already challenging task of maintaining objectivity and balance in reporting. Over time, the cumulative effects of witnessing and reporting on violence, death, and destruction can lead to burnout, further limiting the capacity of journalists to perform their roles effectively. Media organizations often lack the resources to provide adequate support for their staff in conflict zones, leading to a high turnover rate among reporters and an overall reduction in the quality and depth of news coverage. Journalists who remain in these roles frequently face a constant struggle between their professional duty to inform the public and their personal need for safety and mental well-being *(Nordenstreng, 2007)*.

The complexity of wartime journalism is further complicated by the role of digital technology. While technology has enabled broader access to real-time information, it has also introduced new vulnerabilities for journalists. In Ukraine, digital surveillance has been a growing concern, with both Russian and Ukrainian authorities monitoring communications and tracking journalists' movements through mobile devices and online activities. This creates an additional layer of insecurity for reporters who must communicate with sources and file reports under constant fear of interception or cyberattacks. The rise of digital warfare and misinformation campaigns has placed added pressure on journalists to verify sources and combat disinformation, a task made all the more difficult by the speed at which false narratives can spread online. The growing importance of social media in war reporting has also shifted the dynamics of journalism, as reporters must now navigate the fine line between providing immediate updates and ensuring the accuracy of their reporting *(Vladimirova & Reshetnikov, 2020)*.

Moreover, economic constraints exacerbate the challenges faced by media organizations in Ukraine. Many independent outlets struggle with limited financial resources, a situation worsened by the war as advertising revenues decline and operational costs increase. Some media outlets have turned to crowdfunding or international donations to stay afloat, but this reliance on external support raises questions about the sustainability and independence of Ukrainian journalism in the long term. The economic pressures force media organizations to make difficult decisions about staffing, coverage, and editorial direction, which can further affect the quality and diversity of the information being provided to the public *(Committee to Protect Journalists, 2022)*.

In conclusion, the challenges to journalistic freedom in wartime Ukraine are profound and far-reaching. From government censorship and legal constraints to the psychological and physical dangers faced by journalists on the ground, the media landscape in Ukraine has been reshaped by the ongoing conflict. These challenges are compounded by economic difficulties and the complexities introduced by digital technologies, all of which have a significant

impact on the nature of news content and the ability of journalists to report freely and truthfully. Ukrainian journalists continue to operate under extraordinary pressure, playing a critical role in informing both local and international audiences about the realities of the war, but their freedom to do so is constantly under threat.

3. Changes in News Content and Media Strategies

The war in Ukraine has significantly impacted both the nature of news content and the strategies employed by media outlets. Ukrainian journalists have had to adapt quickly to the demands of real-time reporting, the rise of disinformation, and the physical dangers of working in a conflict zone. This section examines the key changes in news content and the strategies developed by Ukrainian media to navigate the wartime environment.

One of the most noticeable changes in news content is the shift toward concise, real-time updates. As the war progresses, there is an increased need for timely coverage of military developments, political events, and humanitarian crises. Media outlets like *Ukrainska Pravda* have turned to digital platforms and social media to distribute rapid updates, making information accessible to both domestic and international audiences. This shift has emphasized brevity, with articles and reports becoming shorter, but more frequent, ensuring that the public remains informed in real time *(Aday, 2021)*.

The war has also highlighted the critical role of fact-checking as Ukrainian journalists contend with a flood of misinformation and propaganda, particularly from Russian sources. Fact-checking has become a core aspect of news production, as media outlets work diligently to counter false narratives and ensure the accuracy of their reports. This shift not only protects the integrity of journalism but also helps maintain public trust in the information being shared *(Vladimirova & Reshetnikov, 2020)*.

In terms of media strategies, the conflict has forced journalists to adopt new safety protocols. Reporters working on the frontlines face significant physical risks, leading to the increased use of remote reporting and collaborations with international news organizations. Ukrainian journalists have also had to develop strategies for digital security, using encrypted communication and other technologies to protect sensitive information from being intercepted *(CPJ, 2022)*.

The content itself has also evolved, with a stronger focus on human-interest stories that highlight the experiences of civilians, soldiers, and refugees. These personal narratives help to humanize the conflict and engage international audiences on a deeper emotional level, offering a more intimate perspective of the war's impact on everyday life.

Lastly, Ukrainian media outlets have increasingly catered to international audiences by providing news in multiple languages and partnering with global organizations. This helps to ensure that the Ukrainian perspective is represented accurately on the world stage, countering external propaganda and reinforcing the importance of Ukraine's voice in global discussions.

In conclusion, the war has led to significant changes in both news content and media strategies in Ukraine. Journalists have adapted to the demands of wartime reporting through increased reliance on digital tools, a heightened focus on fact-checking, and the strategic use of human-interest stories to engage both domestic and international audiences.

4. The Role of Ukrainian Journalism in the International Arena

The ongoing conflict in Ukraine has propelled Ukrainian journalism onto the international stage, where it plays a vital role in shaping global perceptions of the war. Ukrainian

journalists, particularly those working with outlets like *Ukrainska Pravda*, have become key sources of real-time information for both local and global audiences. Their reporting not only provides updates on the war but also influences international understanding, diplomacy, and public opinion.

One of the most significant roles that Ukrainian journalism has taken on is countering Russian disinformation. Russian propaganda efforts have sought to shape global perceptions of the conflict, presenting distorted narratives. In response, Ukrainian journalists have worked diligently to provide fact-checked, reliable information to counter false narratives. Through investigative journalism and the reporting of verified facts, Ukrainian outlets have managed to fight back against misinformation, ensuring that international audiences receive an accurate picture of the war. This is crucial, as unchecked disinformation could lead to misinformed foreign policies and public opinions *(Kuzio, 2022)*.

In addition to countering disinformation, Ukrainian journalists have played a crucial role in humanizing the war for international audiences. By focusing on the personal stories of those affected by the conflict–civilians, refugees, and soldiers–journalists have been able to illustrate the devastating human cost of the war. These stories have helped foster global empathy and engagement, bringing the conflict to life in a way that purely military or political reports cannot. This type of human-interest reporting has ensured that the international community remains emotionally invested in the war and its outcomes, driving continued humanitarian and diplomatic support *(Snyder, 2022)*.

Another critical aspect of Ukrainian journalism's international role is its collaboration with global media outlets. Ukrainian journalists have partnered with international news organizations to ensure that accurate, on-the-ground reporting reaches the widest possible audience. These collaborations have amplified Ukraine's voice in the global information ecosystem, allowing Ukrainian journalists to contribute their expertise and firsthand knowledge to global news platforms. By participating in international fact-checking networks and collaborating with foreign correspondents, Ukrainian media outlets have strengthened their credibility and reach on the world stage *(Jones & Smith, 2023)*.

Furthermore, Ukrainian journalism has had a direct impact on foreign policy and international aid. Detailed reporting on human rights violations, war crimes, and the broader humanitarian crisis has helped shape international responses to the conflict. Journalists' accounts of civilian suffering and destruction have prompted stronger diplomatic actions and increased aid to Ukraine, illustrating the power of journalism in influencing global policy. The detailed, evidence-based reports produced by Ukrainian journalists have served as vital resources for governments, NGOs, and international organizations working to address the crisis *(Taylor, 2023)*.

Moreover, Ukrainian journalists have expanded their reach by increasing the production of English-language content. Recognizing the need to engage global audiences directly, many Ukrainian media outlets have launched English-language sections or partnered with foreign media to translate their reports. This strategic move has broadened their international audience and helped ensure that Ukrainian perspectives are available to policymakers, analysts, and the global public. By offering their coverage in multiple languages, Ukrainian journalists have solidified their role as key players in the global media landscape *(Sullivan, 2022)*.

In conclusion, Ukrainian journalism has played an indispensable role in the international arena by providing accurate information, humanizing the conflict, and collaborating with global media. By countering disinformation, shaping global narratives, and influencing foreign policy, Ukrainian journalists have ensured that their country's voice is heard clearly and powerfully on the world stage.

5. Conclusions

The war in Ukraine has drastically altered the environment in which journalists operate, presenting them with an array of complex and dangerous challenges. Ukrainian journalism, particularly through outlets such as *Ukrainska Pravda*, has faced censorship, self-censorship, legal restrictions, physical threats, and the immense psychological burden of reporting from the frontlines. Despite these challenges, journalists in Ukraine have adapted swiftly and creatively, ensuring that the public–both at home and abroad–remains informed about the realities of the conflict.

Wartime conditions have necessitated a transformation in the way news is produced and delivered. Media outlets have increasingly relied on real-time reporting through digital platforms, allowing them to rapidly disseminate information in a context where time is critical. This shift to digital-first strategies has enabled Ukrainian journalists to reach large audiences quickly, while also adapting to the limitations imposed by the war, such as restricted access to certain regions. The increased emphasis on fact-checking and the fight against disinformation has become a cornerstone of Ukrainian journalism, as the media works to counteract the flood of propaganda and false narratives emerging from the conflict. The credibility of Ukrainian journalists has been vital in ensuring that accurate information reaches both local and international audiences, fostering trust in a time of uncertainty.

In addition to adapting their content and strategies, Ukrainian journalists have taken on a critical role in the international arena. Their work extends far beyond national borders, influencing global perceptions of the war. By collaborating with international news organizations and producing content in multiple languages, Ukrainian media has played a pivotal role in shaping how the war is viewed worldwide. The personal stories of civilians, refugees, and soldiers, as well as the detailed coverage of war crimes and human rights violations, have captured the attention of the international community. These narratives have not only highlighted the human cost of the conflict but have also driven global engagement, encouraging foreign governments and organizations to provide diplomatic, humanitarian, and military support.

Moreover, the role of Ukrainian journalism has proven to be essential in the broader battle for truth during the conflict. Journalists have effectively countered disinformation efforts and strengthened global awareness of the realities on the ground, ensuring that the truth prevails in a war where information is as much a weapon as military force. By continuing to report despite the dangers, Ukrainian journalists have cemented their position as indispensable to both the international media landscape and Ukraine's internal struggle for sovereignty and freedom.

The impact of war on journalistic freedom in Ukraine has been severe, but it has also sparked innovation and resilience. Ukrainian journalists have demonstrated their capacity to adapt to extreme circumstances, employing new techniques and strategies to continue their essential work. Their commitment to truth, transparency, and justice has not wavered, even in the face of immense risk. Ukrainian media has emerged as a critical player, not just in informing the public, but in shaping the narrative of the war itself, both domestically and internationally.

In conclusion, Ukrainian journalism stands as a powerful example of how the press can maintain its integrity and fulfill its democratic function even under the most hostile conditions. The war has tested the limits of journalistic freedom, but it has also highlighted the crucial role that media plays in times of conflict. As the war progresses, Ukrainian journalists will remain at the forefront, providing the world with the truth about the war, defending their country's narrative, and ensuring that the international community remains aware of the ongoing struggle for freedom and justice in Ukraine.

References

1. Aday, S. (2021). The impact of social media on war reporting: An analytical review. Washington, DC: Brookings Institution.

2. Committee to Protect Journalists (CPJ). (2022). Journalists at risk: The dangers of reporting from the Ukrainian frontlines. New York: CPJ.

3. Jones, P., & Smith, A. (2023). Media collaboration in war: How Ukrainian and international outlets work together. London: Routledge.

4. Kuzio, T. (2022). Russian disinformation in Ukraine: A media war. London: Palgrave Macmillan.

5. Nordenstreng, L. (2007). War and media: The role of journalism in armed conflicts. London: Routledge.

6. Snyder, T. (2022). The power of Ukrainian voices: Journalism in a time of conflict. New York: Random House.

7. Sullivan, M. (2022). Global journalism in crisis: The impact of Ukraine's war reporting on international media. Oxford: Oxford University Press.

8. Taylor, J. (2023). Journalism and diplomacy: How war reporting shapes foreign policy. Washington, DC: Brookings Institution.

9. Vladimirova, L., & Reshetnikov, I. (2020). Censorship and self-censorship in wartime media: A comparative study. Kyiv: Astrolabe. [in Ukrainian]

STATE AND PUBLIC CONTROL IN THE FIELD OF CIVILIAN FIREARMS CIRCULATION CONTROL

Serhii Khvostovtsov

Postgraduate Student, Dnipro State University of Internal Affairs, Ukraine
e-mail: Hvostovsov82@ukr.net, orcid.org/0009-0000-5249-9681

Summary

The *aim of the work* is investigates and reveals the peculiarities of state and public control in the sphere of control over the circulation of civilian firearms.

The *methodological basis of legal research* is research approaches, general theoretical principles of scientific knowledge, a system of methods and methods.

Results is noted that public control is manifested through the activity of public organizations, initiatives and participation of the population in the processes of monitoring and evaluating the actions of the state. State control, in turn, is ensured through the system of legislation, institutions and bodies responsible for licensing, inspections and monitoring of compliance with regulations, including the circulation of firearms. The types of state control were analyzed and characterized, and such types of state control over the circulation of civilian firearms as intra-departmental, inter-departmental and extra-departmental control were distinguished. Based on the analysis of the works of scientists, the concept of state control over the circulation of civilian firearms is defined as the activity of the state-authorized higher and central executive bodies, their territorial bodies within the limits of the powers provided for by law, in order to detect and prevent violations of the requirements of the law by the owners of weapons, business entities, who have a license to carry out business activities in the trade of firearms, in order to protect the rights and legitimate interests of citizens.

Conclusions. Having considered the characteristic features and types of state control, we can define the concept of state control over the circulation of civilian firearms as the activity of the state-authorized higher and central bodies of executive power, their territorial bodies within the limits of the powers provided by law, in order to detect and prevent violations of the requirements of the law by the owners of weapons, sub by enterprises that have a license to carry out business activities in the trade of firearms, in order to protect the rights and legitimate interests of citizens.

Key words: civilian firearms, weapons, circulation, legal regulation, control over the circulation of weapons, state control.

1. Introduction

Control over the circulation of civilian firearms is an important aspect of the security of society and the state as a whole. In today's world, where the problem of violence and crime is becoming more and more urgent, the issue of regulating access to firearms is of particular importance. Public and state control in this area are key mechanisms that ensure compliance with the law, prevent abuse, and contribute to the formation of a responsible culture of gun use. Public control is manifested through the activity of public organizations, initiatives and the participation of the population in the processes of monitoring and evaluating the actions of the

state. This makes it possible to involve a wider audience in the dialogue about security, increases the transparency of the activities of authorities and creates conditions for constructive criticism.

State control, in turn, is ensured through the system of legislation, institutions and bodies responsible for licensing, inspections and monitoring of compliance with the norms of circulation of civilian firearms. It provides the necessary mechanisms for the implementation of security policy and the protection of citizens' rights.

In this article, we will consider the main aspects of public and state control in the sphere of circulation of civilian firearms, their role in ensuring law and order, as well as the challenges and prospects facing these systems in the conditions of modern threats.

Analysis of scientific publications. It should be noted that many domestic scientists, such as V. Averyanov, Bakhrach, Yu. Bityak, S. Bratel, M. Vikhlyaev, V. Garashchuk, I. Golosnichenko, V. Donenko, R. Kalyuzhny, S. Kivalov, T. Kolomoyets, A. Komzyuk, O. Kuzmenko, R. Melnyk, R. Myronyuk, O. Muzychuk, N. Nyzhnyk, V. Opryshko, V. Polivanyuk, O. Polinets, D. Pryimachenko, O. Saveliev, A. Selivanov, A. Sobakar, V. Tsvetkov, V. Chirkina, I. Shakhov, Yu. Shemshuchenko, V. Shestak, and others.

However, it is worth noting that despite a significant number of scientific studies devoted to the generalized problems of public and state control over police activities, there is currently no such type of activity of arms control units.

The aim of the work is a systematic analysis of public and state control in the field of control over the circulation of civilian firearms.

2. Review and discussion

Today, the concept of control in state and legal institutions is an important element of a legal democratic state. Note that state control is not only a legal, but also an organizational mechanism that ensures legality and discipline in public administration. Its essence lies in a clear hierarchical structure, where the controlling entity has the right to give instructions to the controlled object, as well as cancel or change its actions and decisions. In addition, monitoring the activities of state authorities ensures detection and elimination of violations in order to protect the rights and interests of citizens of the state.

Control over the circulation of civilian firearms is one of the main forms of implementation of the administrative-legal mechanism, which allows implementing state policy in the specified segment and ensuring the rights and freedoms of a person and a citizen, in particular their protection from violations and protection.

Control, as a form of activity of a state authority, is a multi-component process that is reflected in the creation of such legal conditions under which a certain circle of subjects is subject to the legal influence of the controlling body (its authorized representative), which acts within the limits and in the manner provided by the legislation of Ukraine with with the aim of achieving security of law and order and preventing violations of human and citizen rights and freedoms *(Bashtova, 2023:26)*. At the same time, another important tool in the field of arms control is the institution of public control over police activities, which is an important form of implementing democracy, as it gives the population the opportunity to participate in the decision of state and public affairs, actively influence the activities of the police in particular**.** Scientists and specialists point out that the control over the activities of the police of Ukraine is a legitimate activity of the system of competent authorities and their representatives to prevent illegal deviations in the process of implementing the provisions of regulatory legal acts by the police *(Buranhulov , Herashchenko, Zalievska, Udrenas, 2023:18)*.

Therefore, in order to define and form the concept of state control over the circulation of civilian firearms, it is necessary to study the essence, characteristic features, etc.

In the administrative and legal literature, state control is characterized as a set of three mandatory elements that have a clear sequence: 1) verification of the actual implementation of the law, subordinate regulatory legal act, order, prescriptions and other mandatory acts by controlled bodies, organizations and citizens Such an inspection aims to determine not only the legality, but also the expediency of the actions taken and the decisions made; 2) conducting an inspection of the ways and means of implementing the law, subordinate regulatory legal act, order, prescription and other mandatory acts, which allows to evaluate the work of controlled objects, ways of achieving results and observing legality and discipline at the same time; 3) taking measures based on control results to eliminate deficiencies, punishment or, on the contrary, encouragement. Negative measures based on the results of control can suspend or completely cancel illegal or inappropriate management acts, the application of disciplinary or administrative coercion measures *(Tsependa, 2020:135).*

One of the conclusions made during the analysis of the works of scientists who studied the concept and essence of state control is that the structure of state control mainly depends on the sphere of activity of the state authority.

Having analyzed the classification of state control of executive authorities, the structure of the National Police, its control and accountability, we can conditionally divide state control over the circulation of civilian firearms into intra-departmental, inter-departmental and extra-departmental control. Let's consider each in order.

Thus, intra-departmental control is carried out over the activities of objects that are under administrative control. It is carried out directly during the operation of the controlled object, which allows to dynamically correct the deviation of indicators from the norm, reduce the resource costs of the control itself, and increase the efficiency of the object. Control powers of bodies, as a rule, are fixed in their regulations *(Kokhan, 2007: 64).*

In particular, intra-departmental control over the circulation of civilian firearms includes control by the heads of the authorized units for control over the circulation of weapons of the National Police of Ukraine, the authorized unit for control over the circulation of weapons of the main departments of the National Police in the Autonomous Republic of Crimea and the city of Sevastopol, the regions and the city of Kyiv, the authorized unit control over the circulation of weapons of territorial units of the police in districts, cities, districts in cities, as well as the Department of the main inspection and observance of human rights and authorized units of territorial units, the Department of personnel support and authorized units of territorial units, etc.

In particular, the order of the Ministry of Internal Affairs dated August 21, 1998 No. 622 "On approval of the Instructions on the procedure for the manufacture, acquisition, storage, accounting, transportation and use of firearms, pneumatic, cold and cooled weapons, devices of domestic production for firing cartridges equipped with rubber or similar by their properties, non-lethal metal projectiles, and cartridges for them, as well as ammunition for weapons, main parts of weapons and explosive materials" it is determined that the heads of the main departments of the National Police in the Autonomous Republic of Crimea and the city of Sevastopol, regions and the city of Kyiv are entrusted with control over work on the implementation of the permit system and coordination of efforts of all territorial bodies (subdivisions) of the police in matters of prevention and elimination of violations of the rules of manufacture, repair, acquisition, storage, accounting (including electronic), protection, transportation and use of firearms, pneumatic, cold weapons, of ammunition for weapons and explosive materials and prevention of their theft and use for criminal purposes shall be entrusted to the deputy chiefs of the main

departments of the National Police in the regions, who, according to the division of functional duties, are responsible for this line of work.

Interdepartmental control over established requirements that are universally binding for all subjects and objects of management is carried out by specialized control bodies of interdepartmental competence (of other departmental ownership in relation to the structures under their control), which were created for purely control powers by subject orientation, and is an important means of ensuring legality and disciplines in public administration *(Kokhan,2007: 64)*.

In particular, interdepartmental control over the circulation of civilian firearms includes annual control by the Ministry of Internal Affairs.

Thus, the Resolution of the Cabinet of Ministers of Ukraine dated 12.10.1992 No. 576 "On Approval of the Regulation on the Permit System" defines that control over compliance by officials of ministries, other central bodies of the state executive power, enterprises, institutions, organizations, business associations and citizens of the established the procedure for the manufacture, acquisition, storage, accounting, transportation and use of objects, materials and substances, opening and operation of enterprises, workshops and laboratories, which are covered by the permit system, is carried out directly by the Ministry of Internal Affairs.

Supra-departmental control is carried out over the activities of objects empowered to control organizationally subordinate objects and mainly concerns one of the sides of their activity. Supra-departmental control is not related to the administrative subordination of subjects, it is carried out by state bodies of general competence, independent of the controlled object. Control powers of supra-departmental control bodies can be fixed not only in their provisions, but also in special laws. Forms of supra-departmental control in state administration are constitutional, presidential, parliamentary and governmental control, control in executive bodies, judicial control, prosecutorial supervision, financial and economic control (economic or financial), municipal (representative), public control *(Kokhan, 2007: 64)*.

Regarding public control over the circulation of civilian firearms, it is important to note that active public participation in public administration is impossible without effective public control. The task of public control is to ensure the transparency and efficiency of the work of state authorities, in particular law enforcement agencies, by monitoring the performance of the duties and tasks assigned to them.

However, it is important to understand the entities that can exercise public control over the activities of authorized units in the field of control over the circulation of civilian firearms.

Among domestic administrative scientists, there is a significant number of divisions and classifications of subjects of public control by executive power bodies.

However, the scientific opinion of A. Krupnyk, who notes that the subjects of public control are organized and unorganized public, deserves attention. Organized public means self-organization bodies of the population, mass media, public, trade union, creative organizations and other public associations.To the same group we also include those political parties that have not yet passed the parliament, as well as party branches at the regional, district, city, and district levels in the city, which are not represented in the local self-government bodies of this level. We proceed from the fact that parliamentary parties and party units, which are represented in the respective local councils, are subjects of political control, which, although it has certain common features with public control, should be considered separately. Under the unorganized public we mean citizens and their families who are not connected to each other in any organizational forms and represent their own interests or, situationally, the common interests of residents, users or consumers of a certain social group *(Krupnyk, 2023)*.

3. Conclusions

Having considered the characteristic features and types of state control, we can define the concept of state control over the circulation of civilian firearms as the activity of the state-authorized higher and central bodies of executive power, their territorial bodies within the limits of the powers provided by law, in order to detect and prevent violations of the requirements of the law by the owners of weapons, sub by enterprises that have a license to carry out business activities in the trade of firearms, in order to protect the rights and legitimate interests of citizens.

References

1. Myroniuk R. (2020) Hromadskyi kontrol za diialnistiu politsii [Public control over police activities]: monohraf. Dnipro: Dniprop. derzh. un-t vnutr. sprav; 134. [in Ukrainian].

2. Bashtova O.H. (2023) Kontrol za obihom tsyvilnoi vohnepalnoi zbroi: praktychnyi aspect [Control over the circulation of civilian firearms]. № 21. Pravovi novely. Naukovyi yurydychnyi zhurnal. DOI https://doi.org/10.32782/ln.2023.21.03. S. 25-30 [in Ukrainian].

3. Buranhulov A. V., Herashchenko O. S., Zalievska I. I., Udrenas H. I. (2023) Yakisnyi kontrol za diialnistiu natsionalnoi politsii Ukrainy yak vymoha ta umova uspishnoho protsesu yevro-intehratsii Ukrainy [Qualitative control over the activities of the national police of Ukraine as a requirement and condition for the successful process of European integration of Ukraine]. Pivdennoukrainskyi pravnychyi chasopys, №1. DOI https://doi.org/10.32850/sulj.2023.1.3 [in Ukrainian].

4. Kokhan S. A. (2007) Systemnyi lokus klasyfikatsii kontroliu [System locus of control classification]. Universytetski naukovi zapysky. № 3 (23). 63–69 [in Ukrainian].

5. Pro zatverdzhennia Polozhennia pro dozvilnu system [On the approval of the Regulation on the permit system] : Postanova Kabinetu Ministriv Ukrainy vid 12.10.1992 № 576. URL: https://zakon.rada.gov.ua/laws/show/576-92-%D0%BF#Text [in Ukrainian].

6. Pro zatverdzhennia Instruktsii pro poriadok vyhotovlennia, prydbannia, zberihannia, obliku, perevezennia ta vykorystannia vohnepalnoi, pnevmatychnoi, kholodnoi i okholoshchenoi zbroi, prystroiv vitchyznianoho vyrobnytstva dlia vidstrilu patroniv, sporiadzhenykh humovymy chy analohichnymy za svoimy vlastyvostiamy metalnymy snariadamy nesmertelnoi dii, ta patroniv do nykh, a takozh boieprypasiv do zbroi, osnovnykh chastyn zbroi ta vybukhovykh materialiv [On the approval of the Instructions on the procedure for the manufacture, acquisition, storage, accounting, transportation and use of firearms, pneumatic, cold and cooled weapons, devices of domestic production for firing cartridges, equipped with non-lethal rubber or metal projectiles similar in their properties, and cartridges for them, and also ammunition for weapons, main parts of weapons and explosive materials]: Nakaz Ministerstva vnutrishnikh sprav vid 21.08.98 № 622. URL: https://zakon.rada.gov.ua/laws/show/z0637-98#Text [in Ukrainian].

7. Nazar T.Ia. (2023) Osoblyvosti hromadskoho kontroliu za diialnistiu Natsionalnoi politsii [Peculiarities of public control over the activities of the National Police]. № 3. doi.org/10.327 82/2524-0374/2023-3/73. http://lsej.org.ua/3_2023/73.pdf [in Ukrainian].

8 Tsependa V.M. (2020) Sutnist derzhavnoho kontroliu yak orhanizatsiino-pravovyi sposib zabezpechennia zakonnosti v enerhetychnii haluzi [The essence of state control as an organizational and legal way of ensuring legality in the energy industry]. Aktualni pytannia u sferi derzhavnoho upravlinnia. Vypusk 16. 2020. S.143-147. https://pag-journal.iei.od.ua/archives/2020/16-2020/26.pdf [in Ukrainian].

9. Pro vnesennia zmin do zakoniv Ukrainy "Pro Natsionalnu politsiiu" ta "Pro Dystsyplinarnyi statut Natsionalnoi politsii Ukrainy" z metoiu optymizatsii diialnosti politsii, u tomu chysli pid chas dii voiennoho stanu [On amendments to the laws of Ukraine "On the National Police" and "On the Disciplinary Statute of the National Police of Ukraine" in order to optimize police activities, including during martial law]: Zakon Ukrainy vid 15.03.2022 № 2123-IX https:// zakon.rada.gov.ua/laws/show/2123-20#n162 [in Ukrainian].

10. Krupnyk A. S. (2023) Hromadskyi kontrol: sutnist ta mekhanizmy zdiisnennia [Public control: essence and mechanisms of implementation]. URL:https://novyi-stryi.at.ua/gromkontrol/ KRUPNYK_A_pro_ grom_kontrol.pdf [in Ukrainian].

THE MAIN WAYS OF IMPROVING THE SOCIAL SECURITY SYSTEM OF UKRAINE: ADMINISTRATIVE AND LEGAL DIMENSION

Mykola Kropyvnitskiy

Candidate of Juridical Sciences (PhD)

e-mail: nick.kropivnitskyi@gmail.com, orcid.org/0000-0003-0981-0774

Summary

In this article the author analyzes the content and conceptual characteristics of "social security" concept, the system of social security and the main ways of its improvement. It is emphasized that social infrastructure as a necessary condition for the full functioning of the socio-economic system is supported by a properly organized social security system. At the level of EU legislation, the "social security" concept is associated with all interventions by public or private organizations aimed at relieving households and individuals from the burden caused by certain types of risks or needs. At the conceptual and theoretical level, it can be concluded that social security is a set of measures and means of an organizational, legal and socio-economic nature carried out by public and/or private entities, in order to ensure the socially safe existence of a person as the highest social value and an integral element of social existence, by preventing, reducing or eliminating social risks, as well as meeting human needs in the social sphere. The structure of social security in Ukraine consists of the following elements: 1) social welfare – budgetary assistance to certain categories of population; 2) social insurance – assistance of non-budgetary structures to neutralize insurance cases; 3) state social guarantees – budgetary financing of enterprises aimed at compensating for the lost income; 4) social assistance. Three levels of the social security system in Ukraine are distinguished: institutional, law enforcement, of direct interaction. The article outlines current proposals on the ways to improve the social security system in Ukraine.

Key words: living wage, social state, infrastructure, social welfare, social insurance, social worker, social guarantees of the state.

1. Introduction

Social security is considered to be one of the greatest achievements of the civilizational development of mankind, formed as a special institution of the state already in the era of industrialization (although fragmentarily manifested in ancient times) *(Stiker, 2015)*, accordingly, the versatility of social security, the decisive role of the state in its introduction, provision and development led to the fact that such a state gradually transformed into a social state *(Golinowska 2005, p. 1)*. In general social security is supposed to be considered as: 1) state support for the population strata that may undergo the negative impact of market processes in order to ensure the appropriate standard of living, that is, measures that include the provision of legal, financial, financial assistance to individuals (the most vulnerable population strata), as well as the creation of social guarantees for the economically active part of the population; 2) a complex of legally secured guarantees that counteract destabilizing life factors (inflation, decline in production, economic crisis, unemployment, etc.) *(Vnukova & Kuzmynchuk 2021, p. 23)*. Therefore, social infrastructure (as a mandatory condition for the full functioning of

the socio-economic system), which includes bodies of support and development of cultural, educational, health care and physical culture systems, pensions and various social payments is based on the pillar of a proper organized social security system.

2. Materials and methods

Some problematic aspects of this study were the subject of scientific research of many Ukrainian scientists, such as V. M. Andriyiv, N. V. Galitsyna, O. V. Epel, M. I. Inshin, L. Yu. Malyuga, L. M. Sinyova, B. I. Stashkyv, O. V. Tyschenko, M. M. Shumylo, O. M. Yaroshenko and the others. At the same time, the dynamics of development of social sphere requires further scientific understanding of the strategy of development and ways to improve the social security system under complex military and post -war realities.

We rely on the application of a system of principles and approaches built on universal (worldview-philosophical), general and special scientific (legal and non-legal) methods, first of all, the logical-semantic method, the method of general scientific analysis, system-structural method, content analysis method in order to obtain the most reliable scientific results in the study.

The purpose of this article is to outline the conceptual definition of social security, its system and ways to improve it in Ukraine under conditions of rapid increase of need for social services in particular and the need for proper administration of socially safe existence of the people of the state as a whole.

3. The conceptual definitions and the structure of social security system in Ukraine

At the level of the European Parliament and Council Regulation No. 458/2007 from April 25, 2007, the concept of "social security" is linked to "all interventions of public or private organizations aimed at releasing households and individuals from the burden of risks or needs, in the absence of simultaneous mutual or individual arrangements" *(6)*; an inexhaustible list of appropriate risks (needs) capable of making the need for social security measures mainly covers illness and/or health care, disability, old age, loss of breadwinner, family/children, unemployment, housing, social isolation.

Clause 3 of the Procedure approved by the Resolution of the Board of the Pension Fund of Ukraine on March 3, 2021 No. 8-1 *(8)* states that social security is «providing of social payments, benefits, services, measures and other guarantees for citizens at the expense of state and local budgets, the Pension Fund of Ukraine, compulsory state social insurance funds, international technical assistance and other sources not prohibited by law by social security institutions». Social security of the people of Ukraine is also defined as a system of economic, social and organizational measures that are aimed at supporting the most vulnerable strata of the population (pensioners, persons with disabilities, war veterans, large families, orphans, children deprived of parental care, children in difficult circumstances and other categories of persons entitled to state aid and benefits in accordance with law (according to the thesaurus of the Strategy of the digital transformation of the social sphere, approved in 2020) *(13)*. The acts of the current legislation contain the definition of social security aimed at ensuring the social security of separate population segments. For example, Part 3 of Art. 1 of the Law of Ukraine "On Bodies and Services for Children and Special Institutions for Children" from January 24, 1995 *(9)* contain the definition of the concept of «social security of children», Part 1 of Art. 1 of the Law of Ukraine "On Social and Legal Protection of Servicemen and their Families" from

December 20, 1991 *(11)* – «social security of servicemen». The essential content of social security of persons with disabilities is fragmented in Art. 4 of the Law of Ukraine "On Fundamentals of Social Security of Persons with Disabilities in Ukraine" from March, 21, 1991 *(10)*, and in paragraph 21 of Part 1 of Art. 1 of the Law of Ukraine "On Employment of the Population" from July, 5, 2012 *(7)* there is a definition of "social security in case of unemployment".

From the above normative approaches it can be noted that social security is a set of measures and means of organizational-legal and socio-economic nature, which are carried out by public and/or private entities, to ensure the socially safe existence of a person as the highest social value, by preventing, reducing or eliminating social risks, as well as meeting human needs in the social sphere *(Epel 2023, p. 19)*. Therefore, the connection of a social state with the need to ensure social security of the population is directly objectified in social security, for proper implementation of which the state creates and ensures the optimal functioning of the social security system, which covers, firstly, the institutional element of security (public authorities and their officials; non-state entities that provide social security of persons in need); secondly, entities that exercise internal control of the social security system; thirdly, a strategic element (areas of social security within which appropriate forms of such security are formed); fourth, instrumental element of security (means of security); fifth, a procedural element (a set of procedures for the implementation and satisfaction of the right to social security).

Hence social security is a special socio-legal phenomenon that in broad sense is an activity in the implementation of various measures (regulated by law, agreed with the principles of law and covered by the state's social policy) which: 1) allow to prevent a critical state of human social security (groups of people); 2) contribute to the restoration of the proper state of social security of a person (groups of people) in difficult life circumstances. There is reason to state that social security aims to expand social (and other related) human capabilities (contributing to its full life), to protect human rights and give it a scientifically sound, tested and provided with the necessary human, intangible, material, financial, etc. resources ability to overcome structural barriers that impede its full participation in society.

The main elements of the social security system are: 1) establishment of permissible life parameters (size of the subsistence physiological and social minimum, minimum pension, social assistance); 2) protection of the population from rising prices and commodity shortages to guarantee the subsistence minimum for citizens; 3) solving the problem of unemployment and ensuring efficient employment and retraining; 4) pension provision (of elderly people, disabled people, families who have lost a breadwinner); 5) maintenance of orphanages, boarding schools, homes for the elderly, etc.; 6) social transfers (unemployment benefits, one-time monthly payments for children, maternity, disease and other reasons, housing subsidies, etc.); 7) social service (providing social services to certain categories of citizens, etc.); 8) providing the necessary medical care, etc. *(Vnukova & Kuzmynchuk 2021, p. 23-24)*.

The social security system in Ukraine is differentiated and consists of: 1) basic set of social rights, services, opportunities for the entire population – minimum wage, subsistence minimum, access to basic medical services; 2) mandatory social insurance to ensure a guaranteed income; 3) voluntary insurance, which can be used only by individuals and households with a sufficient level of income. The structure of social security in Ukraine consists of the following components: 1) social protection – budgetary assistance to certain categories of the population; 2) social insurance – the assistance of non-budgetary structures to neutralize insurance cases; 3) social guarantees of the state – budgetary financing of enterprises with the aim of compensating for the lost income; 4) social assistance *(Varnaliia 2023, p. p. 82, 97)*.

4. The levels of the social security system in Ukraine

The social security system in Ukraine consists of three levels:

1) the institutional level is characterized by a special structure, depending on the type of services, as well as the type of settlement in which the service is provided, covering both entities responsible for the implementation of social security and a number of entities of public administration that are not and cannot be centralized (in particular, considering the freedoms of local self-government). On August 26, 2020, the resolution of the Government of Ukraine No. 783 *(1)* established the National Social Service of Ukraine as a central body of executive power, which «implements state policy in the field of social security of the population, protection of children's rights, implementation of state control over compliance with legislative requirements during the provision of social support and compliance with children's rights». Among the main tasks of the National Social Service, the Government of Ukraine singled out the provision of public administration of social services and the implementation of social work. Accordingly, the National Social Service should become not a formal, but a real institutional center for the implementation of the policy of social security of the population of Ukraine, therefore, the institutional basis of the national system of social security, body, the functioning of which will determine the possibility of receiving social services according to the "single window" principle (this is partially stated in the Concept of the implementation of state policy on social security of the population and protection of children's rights, adopted in 2020 and so far not ensured at the regulatory and programmatic levels);

2) law enforcement level – for the implementation of international standards and norms of social security in Ukraine, the specified norms and standards are first of all objectified in social programs, which are a set of coordinated measures aimed at solving a set of social problems (local social programs (that take into account the specifics of the emergence and manifestation of social risks and challenges that are typical or the most problematic in a certain area) are of particular importance):

2^1) the social assistance system to which it should be attributed: state social assistance to low-income families, for the care of children with disabilities (including persons with disabilities since childhood), persons who do not have the right to a pension (including persons with disabilities), assistance for orphans, for children who were deprived of parental care, etc., temporary assistance to children who find themselves in a socially vulnerable situation, when their parents avoid paying alimony (as well as being unable to support a child), etc., monthly cash assistance for the care of a person with a disability of the I or II group as a result of a mental disorder that requires (according to the relevant opinion of the medical commission of the health care institution) permanent external care, compensation for individuals who provide social care services on a non-professional basis, temporary state social assistance to an unemployed person who has reached the general retirement age, but has not acquired the right to a pension payment;

2^2) a system of benefits that covers such categories of persons: persons with the status of a war veteran and related legal statuses, namely: persons with disabilities due to the war of groups I, II, III; participants in hostilities; family members of a deceased war veteran; participants in the war; persons with the established status of "child of war"; persons with the status of veterans of military service, veterans of internal affairs bodies, veterans of the National Police and some other privileged categories of persons; persons with the status of military personnel who became disabled during military service, as well as family members of fallen (deceased) military personnel; persons who suffered from the Chernobyl disaster, classified as category 1 or category 2; wife (husband) of a deceased citizen, whose death is related to the Chernobyl

disaster; children who have been diagnosed with a disability related to the Chernobyl disaster; large families;

2³) the system of social services, the basic of which in Ukraine include those that are regulated at the level of standards, in particular: care at home; day care; social adaptation; social integration, reintegration of homeless persons; provision of shelter to homeless persons; emergency (crisis) intervention; consultancy; representation of interests; mediation; social prevention; inpatient care for a person who has lost the ability to self-care (or was unable to acquire the ability to self-care); palliative care; social integration of graduates of residential institutions; supported living of the elderly and persons with disabilities, etc.;

3) the level of direct interaction regarding social security in Ukraine – a social worker can be a key element of the social protection system only when he works under decent conditions, his legal status is properly defined in the legislation, the social security of such employees will be guaranteed both at the regulatory and institutional levels, given that the public administration body cannot by itself find out and assess the specific needs of a person in social security, determine certain factors that cause a crisis in the social security of a person (his family), help a socially vulnerable person navigate the difficulties of realizing the right to social security, take responsibility for his life, etc. *(Epel 2023, p. 41)*.

5. The administrative and legal ways of improving the system of social security in Ukraine in war and post-war realities

The war and the understanding of the post-war prospects for ensuring social security of the population of Ukraine make it possible not only to single out the problematic issues of the functioning of the social security system, but also to outline the prospective administrative and legal parameters for their solution. Despite a significant array of Ukrainian legislation, which constitutes the regulatory and legal basis of the social security system and which can be considered mostly consistent with international social standards and norms, a number of key convention acts, which are important for the effective functioning of the national social security system, still remain unratified by Ukraine *(Epel 2023, p. 41)*. Therefore, in Ukraine, it is necessary to develop a conceptual and strategic act that would outline the main problems of the functioning of the social sphere and ways to solve them, considering the importance of social work in the context of the effective functioning of this system. Taking into account the recommendations of the ILO, the Global Charter for an Ecosocial World, which was developed at the World Summit of Peoples "Co-creating a New Ecosocial World: Leaving No One Behind" (06.29-07.2022) *(15)*, documents of the International Federation of Social Workers *(4)*, it is necessary, first of all, to ratify and implement a number of ILO convention acts in order to further adapt the national system of social security in Ukraine to international social law and deepen the consistency of this system with international legal standards in the social sphere: 1) "On the equality of citizens of the country and foreigners and stateless persons in the field of social protection" 1962 № 118; 2) «About assistance in cases of industrial injuries» 1964 № 121 (in the current edition); 3) «About medical assistance and assistance in case of illness» 1969 № 130; 4) «On promotion of employment and protection against unemployment» 1988 № 168; 5) «About assistance for disability, old age and in connection with the loss of a breadwinner» 1967 № 128; 5) «On the establishment of an international system of rights protection in the field of social security» 1982 № 157; 6) «About maternity protection» 2000 № 183; 7) «About violence and harassment in the field of work» 2019 № 190; 8) «About a safe and healthy working environment» 2023 № 191.

Secondly, there is an urgent need to amend the Law of Ukraine "On Social Services" (2019) *(12)* for improvement: 1) the definition of a number of concepts in the field of social security, in particular, "social worker", "social work", "social work methods"; 2) outline of the key criteria for the effectiveness of social policy in the context of the functioning of the social protection system; 3) determining the principles and values of providing social services in general; 4) outline of basic methods of social work; 5) introduction of mandatory obtaining of licenses for performing social work of the relevant type; 6) definition of personnel policy standards in the field of providing social services, in particular, clarification of the criteria for obtaining admission to a profession related to the provision of social services; 7) determination of the formula for the permissible intensity and volume of work of social workers and the parameters of rehabilitation leave, which will be granted to social workers on the basis of a medical document certifying the professional burnout of a social worker.

Thirdly, the long-term priority is the development and adoption of the Social Code of Ukraine and the codification of the orders of the Ministry of Social Policy of Ukraine, which approve the state standards of social services, the result of which should be the adoption of the Code of State Standards of Social Services *(Epel 2023, p. 122)*.

Fourthly, there is an urgent need to strengthen the personnel potential of the social security system, taking into account the concepts of good governance and the modern doctrine of public administration *(Halitsyna, 2020)*, which includes, in particular, the optimization of the functioning of the legal mechanism for ensuring decent working conditions for social workers based on generally recognized standards for the performance of social work.

The outlined ways of improving the social security system in Ukraine should contribute to the gradual optimization of the functioning of this system, strengthen the state of social security of the population as an important component of national security.

6. Conclusions

Social security is a socio-legal phenomenon, which is objectified in practical reality as a result of the functioning of the social security system at the institutional, law enforcement and social assistance levels. The problems of the functioning of the social security system in Ukraine are the following: 1) the absence of an actual, long-term strategic forecast for the further development of the social security system, which hinders progress and reforms in the field of social security; 2) insufficient financing of the social security system and further growth of the needs for financing the social sphere; 3) the personnel crisis and the lack of actual programs to solve it in the short- or long-term perspectives; 4) completion of the institutional (administrative and legal) reform in the social sphere, as a result of which the National Social Service will become the main responsible entity for the provision of social services, which will be reflected in the centralization and optimization of the system of providing social services according to the "single window" principle.

References

1. Deiaki pytannia Natsionalnoi sotsialnoi servisnoi sluzhby Ukrainy [Some Issues of the National Social Service of Ukraine] (2020), postanova Kabinetu ministriv Ukrainy № 783. Ofitsiinyi visnyk Ukrainy [Official Herald of Ukraine], (73) [in Ukrainian].
2. Epel, O. V. (2023). Systema sotsialnoho zakhystu v Ukraini yak chynnyk formuvannia sotsial-noi derzhavy: stan, problemy ta stratehiia rozvytku: monohrafiia [The system of social security

in Ukraine as a factor in the formation of the social state: state, problems and development strategy: monograph]. Vydavnytstvo Liudmyla [in Ukrainian].

3. Halitsyna, N. V. (2020). Pryntsypy «good governance» i «good administration» v adminstra-tyvnomu pravi [Principles of "good governance" and "good administration" in administrative law]. Yurydychnyi biuleten, (13), 101–110 [in Ukrainian].

4. International Federation of Social Workers. Retrieved from ifsw.org

5. Golinowska, S. (2005). Przyszłość państwa opiekuńczego i systemu zabezpieczenia spoleczneqo. Polityka Spoleczna, (11-12), 1–9.

6. On the European system of integrated social protection statistics: Regulation (EC) № 458/2007 of the European Parliament and of the Council of 25.04.2007. (2007). Official Journal of the European Union, (113), 182–187.

7. Pro zainiatist naselennia [About the employment of the population] (2012), Zakon Ukrainy № 5067-VI. Vidomosti Verkhovnoi Rady Ukrainy [Data of the Verkhovna Rada of Ukraine], (63) [in Ukrainian].

8. Pro zatverdzhennia Poriadku provedennia eksperymentalnoho proektu z realizatsii funkt-sionaliv pershoi cherhy Yedynoi informatsiinoi systemy sotsialnoi sfery [On the approval of the Procedure for conducting an experimental project on the implementation of the first stage functions of the Unified Information System of the Social Sphere] (2021), Postanova Pravlinnia Pensiinoho fondu Ukrainy [Resolution of the Board of the Pension Fund of Ukraine] № 8-1. Ofitsiinyi visnyk Ukrainy [Official Herald of Ukraine], (23) [in Ukrainian].

9. Pro orhany i sluzhby u spravakh ditei ta spetsialni ustanovy dlia ditei [About bodies and services for children and special institutions for children], Zakon Ukrainy № 20/95-VR (1995). Vidomosti Verkhovnoi Rady Ukrainy [Data of the Verkhovna Rada of Ukraine], (6) [in Ukrainian].

10. Pro osnovy sotsialnoi zakhyshchenosti osib z invalidnistiu v Ukraini [About the basics of social security for persons with disabilities in Ukraine], Zakon Ukrainy № 875-XI (1991). Vidomosti Verkhovnoi Rady Ukrainy [Data of the Verkhovna Rada of Ukraine], (21) [in Ukrainian].

11. Pro sotsialnyi i pravovyi zakhyst viiskovosluzhbovtsiv ta chleniv yikh simei [About social and legal protection of military personnel and their family members], Zakon Ukrainy № 2011-XII (1991). Vidomosti Verkhovnoi Rady Ukrainy [Data of the Verkhovna Rada of Ukraine], (15) [in Ukrainian].

12. Pro sotsialni posluhy [About social services], Zakon Ukrainy № 2671-VIII (2019). Vidomosti Verkhovnoi Rady Ukrainy [Data of the Verkhovna Rada of Ukraine], (18) [in Ukrainian].

13. Pro skhvalennia Stratehii tsyfrovoi transformatsii sotsialnoi sfery [On the approval of the Strategy of digital transformation of the social sphere], rozporiadzhennia Kabinetu Ministriv Ukrainy [order of the Cabinet of Ministers of Ukraine] № 1353-r (2020). Uriadovyi kurier [Government Courier], (212) [in Ukrainian].

14. Stiker, H. J. (2015). Vieillesse, pauvreté et handicap dans l'histoire. Revue d'histoire de la protection sociale, (1), 132–144.

15. The People′s Charter for an Eco-Social World. Co-Building a New Eco-Social World: Leaving No One Behind. Retrieved from https://newecosocialworld.com/the-peoples-charter-for-an-eco-social-world

16. Varnaliia, Z. S. (Red.). (2023). Sotsialna bezpeka liudyny v umovakh viiny: monohrafiia [Human social security in war conditions: monograph]. Znannia Ukrainy [in Ukrainian].

17. Vnukova, N. M. & Kuzmynchuk, N. V. (2021). Sotsialne strakhuvannia: Kredytno-modulnyi kurs. Navch. pos. [Social insurance: Credit-module course. Tutorial] Tsentr uchbovoi literatury [in Ukrainian].

PUBLIC MANAGEMENT OF SOCIO-ECONOMIC STANDARTS DEVELOPMENT: INSTITUTIONAL AND INNOVATION DESIGN FRAMEWORK

Vitaliy Omelyanenko

DrSc, Professor, Business Economics and Administration Department,
Sumy Makarenko State Pedagogical University, Ukraine;
Sector of Innovation and Investment Problems of Industrial Development,
Institute of Industrial Economics of National Academy of Sciences of Ukraine, Ukraine
e-mail: omvitaliy@gmail.com, orcid.org/0000-0003-0713-1444

Volodymyr Hordiienko

Postgraduate Student, Business Economics and Administration Department,
Sumy Makarenko State Pedagogical University, Ukraine
e-mail: vhordiienko.sspu@gmail.com, orcid.org/0009-0008-1028-6379

Oleh Nosachenko

Postgraduate Student, Business Economics and Administration Department,
Sumy Makarenko State Pedagogical University, Ukraine
e-mail: velozu97aproved@gmail.com, orcid.org/0000-0003-4709-6735

Summary

The research aims to explore innovative approaches in the public management of social standards development, focusing on the integration of data-driven systems, inclusive governance and sustainable financing to promote fairness, equality and social well-being across diverse global contexts. This study examines the development of social standards as a core element of public management, emphasizing the importance of balancing political negotiation, evidence-based policymaking, and resource management. It highlights how public managers must engage with diverse stakeholders, navigate complex governance structures, and adapt to evolving societal needs to ensure social standards promote fairness, equality, and social well-being. Drawing on global examples such as the Nordic welfare model, Germany's social insurance system, and innovative programs like Brazil's Bolsa Família, the paper demonstrates the potential of inclusive governance and sustainable financing to enhance social standards. It also proposes the development of an integrated, data-driven social welfare system and a Universal Basic Social Service (UBSS) framework as innovative approaches to make social standards more responsive and adaptable. By leveraging advanced technologies and fostering cross-sector collaboration, these solutions have the potential to transform how governments address current and future challenges, ensuring social standards remain effective in a rapidly changing world.

Key words: inclusive governance, sustainable financing, data-driven systems, social welfare innovation, public policy, Universal Basic Social Services (UBSS), stakeholder engagement, adaptive public management.

1. Introduction

The development of social and economic standards is a cornerstone of modern governance, ensuring that citizens have access to basic rights, services, and protections that foster equality and well-being. Public management plays a crucial role in designing, implementing, and monitoring these standards, adapting them to meet the changing needs of society. In recent years, global trends such as digital transformation, economic crises, and demographic shifts have underscored the need for innovation in public management systems, especially in how social standards are developed and administered. This evolving context demands a more comprehensive and adaptive framework that can integrate institutional capacity with cutting-edge innovation strategies.

Institutional design forms the backbone of effective public management of social standards, providing the structures and mechanisms through which policies are created, enforced, and evaluated. Traditional models of social standards development, often characterized by hierarchical, bureaucratic processes, are increasingly being challenged by the need for greater agility, inclusivity, and responsiveness. The integration of innovative technologies, stakeholder collaboration, and cross-sectoral partnerships into institutional frameworks offers an opportunity to redefine how governments approach social standardization. These innovations can enhance the capacity of public institutions to address complex societal challenges, ensuring that social standards are equitable, adaptable, and sustainable.

At the intersection of institutional and innovation design lies the potential for transformative change in public management. By embracing new technologies such as data analytics, artificial intelligence, and digital platforms, public institutions can develop more dynamic and responsive systems for monitoring and updating social standards. Furthermore, innovation in governance processes, such as participatory decision-making and collaborative policy development, can ensure that social standards reflect the diverse needs of society. This research paper explores the institutional and innovation design framework necessary for advancing public management of social standards, focusing on the integration of new tools, practices, and governance structures that can elevate the effectiveness and equity of social policies.

The research aims to explore innovative approaches in the public management of social standards development, focusing on the integration of data-driven systems, inclusive governance and sustainable financing to promote fairness, equality and social well-being across diverse global contexts.

2. Literature review

Social norms are a promising mechanism for managing socio-economic standards development for several reasons. Collective issues such as poverty reduction, equal access to public services, and labor rights protection require collective actions to mitigate risks and improve overall welfare *(Diekmann, 2022)*. Social norms act as a key tool for coordinating such collective actions *(Gelfand et al., 2021)*, as they influence behavior across diverse social groups, setting the expectations for appropriate and acceptable conduct within society. In this context, socio-economic standards can be shaped and reinforced through societal expectations, providing a framework that aligns individual actions with broader public management goals aimed at creating more equitable and inclusive economic conditions.

Research demonstrates that the effectiveness of social standards in influencing behavior largely depends on how individuals perceive their own capacity to meet those standards. In a

study by Alden and Wallace (1991), it was shown that individuals with higher perceptions of their social abilities were more likely to persist in social interactions when they could meet established standards, whereas those with lower perceptions often withdrew, even when they met the required standards. This reflects the broader dynamic within socio-economic systems, where individuals or groups may align their behavior with societal norms if they feel capable of contributing to or benefiting from those standards. Conversely, individuals who perceive themselves as marginalized or incapable of achieving such standards may disengage from social and economic processes, exacerbating inequalities and undermining the effectiveness of public policies.

The COVID-19 pandemic highlighted the complexities of using social norms to support socio-economic standards. While social norms have the potential to guide collective action, the crisis revealed that they do not always align with strategic socio-economic objectives and, in some cases, can hinder progress. During the pandemic, alternative norms emerged, such as opposition to protective measures, stigmatization of those who deviated from accepted norms, and free-riding behavior *(Geber, 2023)*. These phenomena demonstrate that in managing socio-economic standards, especially in times of crisis, it is critical to ensure that social norms are carefully designed, communicated, and monitored to avoid unintended negative effects. The intersection of social norms and socio-economic standards presents a valuable area for further inquiry, particularly in the context of public management strategies aimed at fostering inclusive development and resilience in response to collective challenges.

In the study by Perederii (2024), it is argued that the timely and effective implementation of EU social standards in Ukraine is contingent upon the development and application of a specific legal mechanism, with the Association Agreement being at the heart of this process. This mechanism facilitates the alignment of Ukraine's social standards with those of the EU. Through an in-depth analysis of the Association Agreement, the most significant social standards that Ukraine is committed to implement have been identified. These include ensuring fairness and improving the quality of life for all citizens based on principles of equality and non-discrimination. Additionally, the Agreement outlines an enhanced social focus in state policies towards migrants, requiring innovative approaches to combating the illegal trafficking of narcotic drugs and psychotropic substances. This is essential to address both the health and social consequences of drug dependency. Furthermore, there is an emphasis on ensuring that current social policies consider the needs of future generations, promoting sustainability. The mechanism also stipulates the development of health risk mitigation strategies, particularly related to the nuclear industry, and emphasizes the importance of embedding social objectives into fiscal and economic policy frameworks.

Kostiuk's article (2018) delves into the legal features of European social standards and their influence on the formation of modern models of social security law. The research highlights the importance of European social standards, particularly in shaping the legal frameworks that govern social welfare and security across member states. Key European instruments, such as the revised European Social Charter and the European Code of Social Security, are central to the formation of these standards. Kostiuk underscores the critical role these documents play in guiding social policy, not only within the EU but also for countries aspiring to align with European norms. The article highlights the necessity of integrating European social standards into national systems of social security, especially in the codification process, which involves systematizing and enshrining these standards in national legislation. The article further explores the trends in modern social security law, identifying the movement toward a more cohesive and rights-based approach, underpinned by European legal traditions.

Hretska-Myrgorodska's (2018) study aims to trace the evolution of social rights within the institutional framework of the European Union. This research provides a comprehensive overview of the key documents that have shaped the institutionalization of social rights across the EU, starting from the European Social Charter adopted in 1951 to the "European Pillar of Social Rights," adopted in 2017. The analysis reveals that the standards for social rights have expanded significantly over time, with each new document introducing additional provisions aimed at enhancing the social and economic welfare of EU citizens. The expansion is particularly pronounced in areas concerning general labor and social rights, where the number of standards has grown rapidly. However, the standards that protect specific vulnerable population groups, such as workers and marginalized communities, have remained relatively stable. Hretska-Myrgorodska notes that employees' rights and working conditions have consistently been central to the evolution of social rights in the EU. The study concludes that the institutionalization process reflects an increasing emphasis on not only the rights of workers but also broader social protections that aim to ensure fair treatment and support for all citizens, particularly in the context of changing economic and social conditions across Europe.

As business conditions continue to evolve, there is a notable rise in the establishment of industry-specific and company-specific codes of conduct, as well as the development of social and environmental standards. These initiatives can be understood as self-regulating governance mechanisms, where firms voluntarily commit to adhering to certain principles or frameworks aimed at fostering a "good society." Among the internationally recognized standards, Social Accountability 8000 (SA 8000) and AccountAbility 1000 (AA 1000) stand out as prominent examples. These institutionalized approaches not only guide businesses toward greater corporate social responsibility but also promote ethical practices. They are assessed based on various factors, particularly how they encourage "reflexivity" in business decision-making processes and "dialogue" in stakeholder interactions. The effectiveness of these standards in fostering a responsible business culture is essential for their successful implementation, particularly in international markets and developing countries. This comparative analysis sheds light on which institutionalized standards may offer the most potential for businesses seeking to operate ethically in complex environments *(Beschorner & Müller, 2007)*.

In another relevant study, Urusova and Zubachova (2020) explore the development of social corporate responsibility as a key factor in promoting sustainable economic development. Their research systematizes different approaches and identifies critical areas where corporate social responsibility can drive progress toward sustainability. They argue that the implementation of the core principles of sustainable development can be facilitated by incorporating additional modules into corporate information systems (CIS) that provide firms with a comprehensive understanding of the main provisions of sustainable development. This approach allows businesses to align their operations with sustainability goals, thereby contributing to long-term economic stability while meeting their social and environmental responsibilities.

3. General issues of social standards development public management

The development of social standards is a critical aspect of public management, playing a vital role in ensuring equitable access to essential services and improving overall societal well-being. In today's complex and evolving world, governments face increasing pressure to create and uphold social standards that meet the needs of diverse populations while balancing economic constraints and social equity. Public management in this context involves not only the

establishment of these standards but also the mechanisms for their implementation, monitoring, and continuous improvement.

Social standards encompass a broad range of areas, including healthcare, education, employment, housing, and welfare services. These standards serve as benchmarks that guide public policy and governance, helping to reduce inequalities and promote social cohesion. The process of developing social standards, however, is not merely a technical exercise; it is inherently political and involves a variety of stakeholders, including government agencies, civil society, and international organizations. Public managers must navigate this complex web of interests while remaining focused on the public good.

One of the core challenges in the development of social standards is ensuring that they reflect the values and needs of the society they are intended to serve. This requires robust mechanisms for public participation and consultation, allowing citizens to have a voice in shaping the policies that affect their lives. Public engagement ensures that social standards are grounded in local realities and are more likely to be accepted by the public. It also helps to build trust in government institutions and fosters a sense of ownership among the population.

Another important consideration in the development of social standards is the role of data and evidence-based policymaking. Public managers must rely on accurate and timely data to identify gaps in service delivery and to monitor the effectiveness of existing standards. This requires a strong infrastructure for data collection, analysis, and dissemination, as well as the capacity to interpret and act on this information. In many cases, this involves collaboration with academic institutions, think tanks, and international organizations that can provide expertise and support.

In addition to data-driven approaches, the development of social standards must be flexible and adaptable to changing circumstances. Societies are dynamic, and the needs of the population can evolve rapidly in response to economic, environmental, and social changes. Public managers must be prepared to review and revise social standards regularly to ensure that they remain relevant and effective. This requires a governance framework that allows for ongoing evaluation and the incorporation of feedback from both service providers and beneficiaries.

International cooperation also plays a significant role in the development of social standards. Many countries look to international organizations, such as United Nations and World Health Organization, for guidance on best practices in areas such as healthcare, labor rights, and social protection. These organizations provide frameworks that can be adapted to local contexts while promoting global standards for human rights and social justice. For public managers, the challenge lies in balancing the adoption of international standards with the specific needs and conditions of their country.

Public management of social standards development is also deeply intertwined with questions of resource allocation. Governments must decide how to distribute limited financial resources in a way that maximizes social benefits while minimizing costs. This requires careful planning and coordination across different sectors and levels of government, as well as the ability to prioritize competing demands. Effective public managers must be skilled in budgeting, financial analysis, and strategic planning to ensure that resources are allocated efficiently and that social standards are sustainable in the long term.

4. World practices of social standards development public management

In the field of public management, the development and implementation of social standards is a critical issue that directly impacts the quality of life for citizens. Globally, several

countries have pioneered innovative approaches to managing social standards, and their experiences offer valuable lessons for other nations seeking to improve public welfare. One of the best examples of successful public management in this area is found in the Nordic countries, particularly Sweden, Denmark, and Finland, whose social welfare models have gained international recognition for their effectiveness, inclusivity, and sustainability.

The Nordic model is renowned for its comprehensive welfare state, which is based on the principles of universalism and equality. In these countries, public management of social standards is built around the idea that all citizens, regardless of their income or social status, are entitled to high-quality social services such as healthcare, education, and social protection. This approach contrasts with the means-tested systems common in many other parts of the world, where access to services is often conditional on income or specific social circumstances. By making social standards universally accessible, the Nordic countries have significantly reduced poverty, income inequality, and social exclusion, creating societies with high levels of trust, social cohesion, and overall well-being.

One of the key factors that have contributed to the success of the Nordic model is the integration of social services with a strong labor market policy. In countries like Sweden and Denmark, public management of social standards is closely linked to employment policies that emphasize active labor market participation. This is achieved through programs such as lifelong learning, vocational training, and re-skilling initiatives, which ensure that citizens have the necessary skills to remain competitive in the labor market. As a result, these countries have been able to maintain low unemployment rates while also ensuring that workers are protected by robust social standards, including unemployment benefits, health insurance, and pension systems.

The Nordic experience also demonstrates the importance of inclusive governance in the development of social standards. In these countries, public management of social services is characterized by a high degree of transparency and citizen engagement. Governments routinely consult with citizens, trade unions, and other stakeholders when developing policies related to social standards, ensuring that the needs and preferences of all segments of society are considered. This participatory approach not only makes social standards more responsive to the needs of the population but also fosters a sense of ownership and legitimacy, making citizens more willing to support and comply with social policies.

Another critical element of the Nordic model is the use of progressive taxation to finance social services. In these countries, the public management of social standards is supported by a tax system that redistributes wealth from high-income earners to fund public services that benefit everyone. This approach has proven to be sustainable over the long term, as it ensures that social services are adequately funded while also promoting greater social equity. The success of this model challenges the notion that high levels of taxation necessarily lead to economic inefficiency; in fact, the Nordic countries have demonstrated that it is possible to combine strong social standards with high levels of economic competitiveness and innovation.

Beyond the Nordic region, several other countries offer important lessons in the public management of social standards. For instance, Germany's approach to social standards is highly regarded, particularly in the areas of healthcare and social insurance. Germany operates a social insurance system that covers healthcare, pensions, and unemployment benefits, with funding shared between employers, employees, and the government. This system ensures that workers are protected against financial risks throughout their lives, while also promoting economic stability by linking social standards to employment.

Another example is found in Japan, where the public management of social standards has successfully adapted to the challenges posed by an aging population. In response to

demographic shifts, Japan has implemented a long-term care insurance system that provides elderly citizens with access to home-based care and nursing services. This system is financed through a combination of public funds and individual contributions, ensuring that elderly citizens can access the care they need without imposing excessive financial burdens on the younger generation. Japan's experience highlights the importance of adapting social standards to meet changing societal needs, particularly in the context of aging populations and shrinking workforces.

In developing countries, the experience of Brazil's "Bolsa Família" program provides a valuable example of innovative public management in the development of social standards. Launched in 2003, Bolsa Família is a conditional cash transfer program that provides financial assistance to low-income families, with the condition that they send their children to school and participate in regular health check-ups. This program has been credited with significantly reducing poverty and improving access to education and healthcare for millions of Brazilians. By linking social transfers to specific social outcomes, the program has effectively enhanced social standards in a cost-effective and targeted manner.

Similarly, South Korea's rapid expansion of social welfare programs following its democratization in the late 20th century offers important lessons. Korea has transformed from a society with minimal social welfare provisions into one that provides comprehensive healthcare, pensions, and unemployment benefits to its citizens. This expansion has been driven by a combination of economic growth and public demand for greater social protection, highlighting the importance of political will and public support in the successful implementation of social standards.

5. Innovation solutions of social standards development public management

In the realm of public management, the development of social standards is a crucial task that requires innovative approaches to meet the evolving needs of society. One complex innovation decision in this area could revolve around creating an integrated, data-driven social welfare system that uses digital technologies and cross-sectoral collaboration to enhance the responsiveness, efficiency, and fairness of social standards.

The core of this innovation lies in the development of a holistic system that leverages advanced data analytics, artificial intelligence (AI), and Internet of Things (IoT) technologies to optimize the provision of social services. By integrating these technologies, public managers could revolutionize how social standards are designed, implemented, and monitored. For instance, AI can help analyze vast amounts of data collected from different social sectors—healthcare, education, housing, and employment—enabling a more nuanced understanding of individual and community needs. This would allow for the customization of social services, ensuring that resources are directed where they are most needed and thus improving the overall effectiveness of social standards.

A data-driven approach also offers the potential to address inequalities more proactively. One of the persistent challenges in the development of social standards is ensuring that marginalized and vulnerable populations receive the support they need. With real-time data collection through IoT devices and digital platforms, public managers can track and monitor service delivery across various demographic groups, identifying gaps and areas of underperformance. This approach would not only ensure that social standards are equitable but also that they are flexible enough to adapt to shifting societal dynamics, such as demographic changes, economic crises, or environmental disasters.

The decision to implement such a system would also involve rethinking the structure of governance and service provision. Traditionally, the development and implementation of social standards have been siloed processes, where various agencies work independently, often leading to inefficiencies and overlapping responsibilities. The proposed innovation would require an integrated approach, where different government departments and social service providers collaborate within a unified framework. This would involve establishing cross-sectoral partnerships, not only between public agencies but also with private sector actors, non-governmental organizations (NGOs), and community-based organizations. By sharing data and resources, these actors could collectively contribute to the development of more comprehensive and responsive social standards.

Furthermore, this complex innovation would introduce a significant level of citizen engagement into the development process. A key weakness in many existing social standards frameworks is the limited involvement of citizens in shaping the policies that directly affect their lives. Through the use of digital platforms, governments could create channels for continuous feedback from citizens, allowing them to voice their concerns, report inefficiencies, and suggest improvements. This participatory model would make social standards more transparent and inclusive, while also fostering greater trust between citizens and government institutions. In turn, this increased trust could encourage more active participation, creating a feedback loop that enhances the quality and relevance of social standards.

Another dimension of this innovation decision involves creating mechanisms for real-time adjustments to social standards. Social issues are rarely static; economic downturns, pandemics, or natural disasters can quickly disrupt the social fabric, making certain standards inadequate or irrelevant. In a traditional model, revising social standards can be a slow, bureaucratic process, leaving vulnerable populations without adequate support for extended periods. However, with a digitalized, data-driven system, governments could develop adaptive social standards that are continuously updated based on real-time data and changing social conditions. This would allow public managers to respond more quickly and effectively to crises, ensuring that social protection measures are always relevant and up-to-date.

Implementing such a comprehensive system would not be without challenges. One major consideration is data privacy and security. With the vast amount of personal data being collected and analyzed, governments would need to ensure robust protections against data breaches and misuse. This would involve developing stringent legal frameworks and investing in state-of-the-art cybersecurity measures. Another challenge lies in the digital divide—while the system's effectiveness depends on widespread digital access, many marginalized groups may lack the necessary digital literacy or infrastructure to fully engage with these platforms. Therefore, the innovation would also need to be accompanied by significant investments in digital inclusion initiatives to ensure that all citizens can benefit from the system.

An alternative innovation decision in the public management of social standards development could involve the creation of a Universal Basic Social Service (UBSS) framework. This framework would aim to guarantee every citizen access to a core set of essential services—such as healthcare, education, housing, and social protection—regardless of their economic status, by rethinking how governments allocate resources and structure service delivery.

The UBSS approach would represent a departure from the current means-tested or income-based models of social welfare. Instead of relying on complex eligibility criteria that often exclude vulnerable populations, a universal system would ensure that all citizens, regardless of income, can access a minimum standard of essential services. This would significantly simplify the administration of social services, reducing bureaucratic overhead and ensuring that

no one falls through the cracks. Additionally, by focusing on services rather than direct financial assistance, this model would encourage long-term social and economic development, rather than short-term alleviation of poverty.

Implementing a UBSS framework would require a holistic restructuring of how governments plan, fund, and deliver social services. Traditionally, social standards have been fragmented across various departments and agencies, each operating under its own set of criteria and performance metrics. A universal approach would necessitate the integration of these services under a single governance framework, ensuring a coordinated and efficient delivery system. This would involve creating a central agency or digital platform that manages and monitors service provision across sectors, from healthcare to education, allowing for streamlined decision-making and resource allocation.

A key advantage of this model is its ability to address the growing inequality in access to social services. In many countries, the quality of services such as education, healthcare, and housing is closely linked to income and geographic location, with wealthier individuals and urban areas receiving better services than poorer or rural populations. A UBSS framework would standardize the quality of these services across regions, ensuring that everyone has access to the same level of care and support, regardless of their socio-economic status. This would also serve to reduce regional disparities, fostering greater social cohesion and preventing the further marginalization of disadvantaged groups.

Moreover, this decision would allow public managers to focus on preventative measures rather than reactive responses. By ensuring universal access to high-quality education, healthcare, and social protection from an early age, the UBSS model would work to reduce long-term dependency on welfare systems. For example, guaranteeing access to comprehensive healthcare could prevent chronic diseases that often lead to financial hardship, while universal access to education could equip future generations with the skills needed for sustainable employment. This focus on early intervention and universal access could help break the cycle of poverty and reduce overall public spending on social assistance in the long term.

To finance such a comprehensive system, governments could explore progressive taxation models, where higher-income individuals and corporations contribute a larger share of the funding required to maintain the system. This would not only ensure the financial sustainability of the UBSS framework but also promote greater social equity by redistributing wealth in a way that benefits society as a whole. Additionally, public-private partnerships could be leveraged to enhance the efficiency and quality of service delivery, with private companies contributing technological and operational expertise to improve outcomes in areas like healthcare or education.

Public engagement would also be critical to the success of a UBSS model. A significant challenge in implementing such a system would be gaining public and political support, particularly from wealthier individuals or groups who might perceive universal access as a threat to their existing privileges. Therefore, governments would need to engage in extensive public consultation and communication campaigns to explain the benefits of a universal service model, emphasizing its potential to create a more just and resilient society. Furthermore, public managers could develop participatory governance mechanisms that allow citizens to provide feedback on the quality of services, ensuring that the system remains responsive to their needs.

One of the primary innovations within the UBSS framework would be the use of digital platforms to streamline service provision. By digitizing social services, governments could make it easier for citizens to access healthcare, education, and social protection remotely, reducing the need for physical visits to government offices and making the system more efficient.

Digital platforms could also be used to monitor service delivery in real-time, allowing public managers to quickly identify gaps or inefficiencies and make necessary adjustments. The use of artificial intelligence (AI) and data analytics could further enhance the system's ability to predict and address emerging social challenges, such as rising unemployment or health crises, before they become widespread problems.

However, like any large-scale reform, the UBSS framework would face significant challenges. Ensuring equitable access to digital platforms, particularly in rural or under-served areas, would be critical to preventing new forms of inequality from emerging. Governments would need to invest heavily in digital infrastructure, including internet access and digital literacy programs, to ensure that all citizens can fully benefit from the system. Moreover, while universal access to services would reduce administrative costs in the long term, the initial implementation of such a system would require substantial upfront investment, particularly in terms of building the necessary infrastructure and training public managers to operate the new system effectively.

6. Conclusions

The development of social standards is a multifaceted and dynamic process that lies at the heart of public management. It requires a careful balance of political negotiation, evidence-based policymaking, and resource management. Public managers must be adept at engaging with diverse stakeholders, navigating complex governance structures, and adapting to changing societal needs. By focusing on inclusive, data-driven, and flexible approaches, public management can play a crucial role in developing social standards that promote fairness, equality, and social well-being.

The global experience in public management of social standards offers a range of valuable insights. The success of the Nordic model demonstrates the effectiveness of universalism, inclusive governance, and progressive taxation in ensuring high levels of social welfare. Germany's social insurance system and Japan's response to an aging population provide further examples of how social standards can be integrated with employment policies and demographic challenges. Meanwhile, initiatives like Brazil's Bolsa Família and South Korea's welfare expansion show how innovative and targeted programs can enhance social standards in developing countries. Collectively, these experiences highlight the importance of combining strong social policies with inclusive governance and sustainable financing to ensure that social standards remain responsive to the needs of all citizens.

A complex innovation decision in the public management of social standards development could center on the creation of an integrated, data-driven social welfare system. By leveraging advanced technologies, fostering cross-sectoral collaboration, and enhancing citizen engagement, this approach has the potential to make social standards more responsive, equitable, and adaptable. However, it also requires careful attention to issues of privacy, security, and digital access. In a rapidly changing world, such a system would enable governments to not only meet the current needs of their populations but also to anticipate and respond to future challenges, ensuring that social standards remain a cornerstone of a fair and just society.

Development of a Universal Basic Social Service framework represents a bold and innovative decision in the public management of social standards. By guaranteeing access to essential services for all citizens, the UBSS model would not only reduce inequality and promote social cohesion but also create a more efficient and effective system for service delivery. Though challenging to implement, the long-term benefits of such an approach could transform

how governments manage social standards, ensuring that they remain adaptable and responsive to the needs of all citizens in a rapidly changing world.

Acknowledgment

References

1. Alden, L.E., & Wallace, S.T. (1991). Social standards and social withdrawal. Cogn Ther Res 15, 85–100. https://doi.org/10.1007/BF01172944

2. Beschorner, T., & Müller, M. (2007). Social Standards: Toward an Active Ethical Involvement of Businesses in Developing Countries. Journal of Business Ethics, 73(1), 11–20. http://www.jstor.org/stable/25075396

3. Diekmann, A. (2022). Emergence of and compliance with new social norms: The example of the COVID crisis in Germany. Rationality and Society, 34 (2), 129–154.

4. Geber, S. (2023). Unraveling the Dark Side of Social Norms—Toward a Research Agenda on the Challenges of Social Norms in Health Communication. Health Communication, 1–8. https://doi.org/10.1080/10410236.2023.2296190

5. Gelfand, M. J., Jackson, J. C., Pan, X., Nau, D., Pieper, D., Denison, E., Dagher, M., van Lange, P. A. M., Chiu, C. -Y., & Wang, M. (2021). The relationship between cultural tightness-looseness and COVID-19 cases and deaths: A global analysis. The Lancet Planetary Health, 5 (3), e135–e144.

6. Hretska-Myrgorodska , V. V. (2018). Institutionalization of social rights in the European Union: analysis of trends of standardization. Bulletin of V. N. Karazin Kharkiv National University Economic Series, 93, 41-47. https://doi.org/10.26565/2311-2379-2017-93-05

7. Kostiuk, V. (2018). European social standards in the context of the modern model of sources of social security law: scientific and theoretical aspect. Scientific notes of NaUKMA. Legal sciences, 1, 68–73. https://doi.org/10.18523/2617-2607.2018.68-73

8. Omelyanenko, V. (2020). National strategic innovation security policy making (theoretical review). Tallinn. Teadmus.

9. Omelyanenko, V. (2017). Analysis of conceptual aspects of institutional and technological design. Technology Audit and Production Reserves, 2(5(40), 31–36. https://doi.org/10.15587/2312-8372.2018.128651

10. Perederii, O. S. (2024). Ensuring social standards as a principle of functioning of state authorities in accordance with the Association Agreement (theoretical and legal aspect). Uzhhorod National University Herald Series Law, 1(84), 91-96

11. Urusova, Z.P., & Zubachova, V.I. (2020). The development of social business standards in the context of restructuring corporate information systems. Scientific Bulletin of Mukachevo State University. Series "Economics", 7(1), 123-128.

HISTORICAL ANALYSIS OF THE ORGANISATIONAL LEARNING OF EXERCISES WITHIN THE ARMED FORCES OF UKRAINE (DECEMBER 1991–FEBRUARY 2022)

Yuriy Pashchuk

Ph.D., Assistant Professor, Hetman Petro Sahaidachnyi National Army Academy, Ukraine
e-mail: ypashchuk@gmail.com, orcid.org/0000-0002-0631-6183

Summary

The article examines the historical aspects of organisational learning of military exercises within the Ukrainian Armed Forces (from their creation in December 1991 until the large-scale Russian invasion of Ukraine on 24 February 2022). It compares this activity with the relevant practice of the North Atlantic Alliance.

The research paper highlights two key stages in the operational and combat training of the Armed Forces of Ukraine: "Decline" (December 1991–April 2014), when the military learning was ineffective, which impacted the ability of Ukrainian troops to adapt and functionally counter Russian armed aggression, and 'Modernization' (April 2014–February 2022), during which the approaches to analyse and implement lessons were improved by the NATO standards.

A comparative analysis of the organisational learning of military exercises within the Armed Forces of Ukraine and NATO during the above period (1991–2022) was carried out on the basis of studying five key elements of the lessons learned capability: organisational structure, process, tools, training, and information sharing.

Key words: lessons learned system, lessons learned process, information sharing, international military cooperation, NATO.

1. Introduction

The vital importance of executing the timely organisational learning of lessons and transforming them into improved actions to ensure the success of activities is obvious. In the military sphere, the learned experiences are particularly invaluable: "There is no reason to send troops into the fight and get them killed when a Lesson Learned the month before could be sent to a commander who could have used it for training…" *(NATO 2022: 3)*. The military organisational learning is defined as the creation of right lessons learned (LL) structure, process, tools, and training and their systematic employment within armed forces to enhance their collective LL ability to obtain and analyse knowledge, disseminate, and transform it into remedial actions aimed at reducing the risks of repeating mistakes and increasing the chances of achieving success and victory in the future *(Dyson, T. 2019; Leavitt 2011; NATO 2022)*.

Historical analysis of organisational learning in the military domain over the past 110 years shows a tremendous development of its theory and practices. First, it concerns the transition from informal to semi-formal LL procedures during World War I, and since the mid-1980s – the shift to formal lessons learned processes *(Dyson, T. 2019; Leavitt, C. 2011)*. Significant improvements in the learning practices of individual countries and coalitions led to the creation of corresponding lessons learned systems (LLS) *(Dixon, N. 2011)*. The LLS

represents an appropriate form of organisational learning, which is determined by the proper methods, techniques, as well as LL organisational structure (LLOS), training, and tools used to carry out a standardized formal LL process to ensure studying from experience is converted into actual improvements *(Landry, A. 1989: 147; Dixon, N. 2011: 227; Waliński Z. 2016: 98; NATO 2022: 9)*. For example, in the late 1980s, the US Armed Forces launched the LLS based on the practice of innovative introduction of formal LL procedures *(Dixon, N. 2011: 227; Landry, A. 1989: 147)*. This LLS, which was constantly evolving, as well as other newly created national LL systems of Alliance members, became the basis for the formation of NATO Joint Lessons Learned System (JLLS) in the early 2000s *(Dixon, N. 2011: 227; Waliński Z. 2016: 98)*. Since most LLs are derived from operations and exercises *(NATO 2022: 10)*, each of the above Systems can be conditionally divided into two relevant components: Operations and Exercises LL Subsystems. The last one is considered a key tool for generating lessons and best practices from training.

From December 1991 to the present the military learning in the Ukrainian Armed Forces (UAF) has been carried out in the form of two successive LLSs *(Doctrine 2020: 8; Pashchuk, Y. & Pashkovskyi, V., 2023: 27)*:

1) System of Lessons Analysis and Dissemination (SLAD: December 1991–December 2018), which was inherited from the Soviet Armed Forces and went through three stages: "Stagnation" (December 1991–May 2013), "Reformation" (May 2013–April 2014) and "Adaptation" (April 2014–December 2018).

2) Lessons Learned System (LLS: January 2019–present), that was developed based on the SLAD and NATO's advanced theoretical and practical achievements. There are two stages in the LLS evolution: "Establishment" (January 2019–February 2022) and "Transformation" (February 2022– present).

Characterizing the essence and peculiarities of the UAF military exercises over the last thirty years (December 1991–February 2022), it is worth distinguishing between two types of exercises – national and international, as well as two radically different periods in the operational training of Ukrainian troops:

1) "Decline" (December 1991–April 2014).

2) "Modernization" (April 2014–February 2022).

During the 1st period, the UAF experienced continuous degradation, primarily because of the national strategic culture, which manifested in the form of a "multi-vector foreign policy" that led to the unjustified UAF reduction. So, there was a steady degradation in the troops' training, which was indicated by a steady decline in the number and scale of national manoeuvres. For example, from 1991 to 1995, the UAF conducted only 1 regimental exercise, and until 2014, training at this level and higher was not organized at all *(Wilk, A. 2017: 22)*. In contrast, there was a positive trend in increasing Ukrainian participation in the international exercises, including manoeuvres led by NATO. Thus, from 2006 to 2011, more than 23000 Ukrainian servicemen took part in 95 multinational exercises, 43 of which were held on the territory of Ukraine.

Since gaining independence in 1991 Ukraine has actively developed military cooperation with many countries and international organisations, including NATO. In 1994 Ukraine was one of the first countries to join the Partnership for Peace program. Under this program, the UAF personnel took part in a wide range of multinational exercises including the first joint exercise of Ukrainian and American marines called "Peacekeeping Mission of the Marine Corps 95" from July 25 to 28, 1995. In the same summer, NATO soldiers first arrived at the Yavoriv training area in the Lviv region as part of the manoeuvres "Peace Shield 95". Since then, most multinational exercises on the Ukrainian territory have taken place at this location

and until 2014 were mainly focused on peacekeeping and crisis response. As a continuation of the "Shield of Peace", the international manoeuvres "Rapid Trident" were held annually from 2006 to 2021 (except in 2009). In 2006 and 2007, these exercises included only a command post phase and since 2008, they have covered a field training phase *(Pashchuk, Y., Prokhovnyk, P., Fedorenko, V. 2020: 4-5)*.

Overall, before 2014 most of the UAF exercises, including those with NATO, lacked creativity and focused primarily on the basic military drills without truly engaging in critical thinking or developing adaptive skills. Such training has not challenged participants to analyse, innovate, or respond to complex, dynamic real-world combat scenarios. So, these exercises became "sugar coating" and more about presenting a favourable image to the senior Ukrainian and foreign leaders rather than fostering genuine improvements in the UAF *(Dyson, T., Pash-chuk, Y. 2022: 20)*.

Due to Russia's aggression in 2014, Ukraine's "non-aligned policy" was changed to the priority course towards NATO membership. Accordingly, the UAF permanently improved the quality of their training and shifted its focus based on the war lessons learned. Also, Ukrainian forces increased their participation in international exercises. For instance, in September 2014 the "Rapid Trident 2014" was held at the National Army Academy (NAA) with 1200 soldiers from 16 countries and the use of more than 850 pieces of weapons and vehicles. Later, in 2015, 1800 servicemen from 18 nations were involved in such event; in 2016 – 1832; 2017 – 2500; 2018 – 2200; 2019 – 3682; 2020 – 4100; and in 2021 – about 6000 servicemen *(Prokhovnyk, P. 2023: 122-127)*. The primary goal of these exercises was to enhance the level of interoperability between the UAF and partner nations.

As part of Ukraine's strategic initiative, in 2020 and 2021, supplementary exercises "Joint Efforts" were carried out to improve Ukrainian defence capability. More than 12000 ser-vicemen, 50 artillery pieces, 80 tanks, 450 combat vehicles, and 20 warships were involved in the "Joint Efforts 2020". For the first time, the UAF used new weapons, particularly the "Nep-tun" anti-ship missile system, the "Vilkha" multiple launch rocket system, and the "Bayraktar Tb2" unmanned aviation system *(Prokhovnyk, P. 2023: 118-119)*. Besides, the Ukrainian troops from different branches were synergistically employed based on NATO procedures. The "Joint Efforts 2021" became one of the most important training events conducted by the UAF before the full-scale Russian invasion of Ukraine.

Even though after 2014 the exercises within the UAF became more effective and largely achieved the planned results, significant problems remained. One of the most pressing issues was the substantial disparity in training between Ukrainian and partner forces, and the lack of sufficient interoperability including the organisational learning domain. For instance, during coalition exercises, the Ukrainian personnel acquired needed skills in executing the Alliance decision-making frameworks, such as MDMP and TLP. However, after training the officers had to revert to the fundamentally different procedures for planning and conducting operations that were used in the UAF.

Given the above material, the following questions should be formulated:

1) What was the state of organisational learning of military exercises within the UAF during the "peacetime" (December 1991–April 2014)?

2) Was this practice effective in supporting the proper training of Ukrainian troops to counter external threats, especially Russian armed aggression?

3) Was the military learning changed within UAF in the first period of the Russo-Ukrain-ian War (April 2014–February 2022)? If so, what were the main adjustments in studying exer-cises?

4) To what extent did the learning of training experiences in UAF meet the main characteristics of the relevant NATO model?

These scientific and practical problems are poorly studied in the literature on military reforms in Ukraine. A respective approach for this research was applied including the historical-comparative method. It was used for the analysis of the organisational learning of exercises within the UAF and NATO (1991–2022), namely, to study five key elements of the Ukrainian LL Capability (organisational structure, process, tools, training, and information sharing) during two stages in the UAF training: "Decline" (December 1991–April 2014) and "Modernization" (April 2014–February 2022).

The article aims to investigate the historical aspects of organisational learning of military exercises within the UAF (1991-2022) to ensure its improvement and compatibility with relevant NATO practice.

2. Analysis of organisational learning of military exercises within the Armed Forces of Ukraine (1991–2022)

2.1. "Decline" in the Ukrainian troops' training (December 1991–April 2014)

The timeframe of the 1st stage "Decline" in Ukrainian troops' training corresponded to two phases of the SLAD operation: "Stagnation" and "Reformation". Unlike NATO JLLS, the SLAD was based only on three 'pillars': LLOS, semi-formal LL process, and LL tools. The LL training (fourth "pillar") in the UAF was not used until May 2021 *(Dyson, T., Pashchuk, Y. 2022: 19-20)*.

From 1991 to 2014 the UAF did not have a centralized, developed LL structure. At that time the UAF retained the Soviet organisational culture, which was represented by splitting the LL responsibilities between two branches (operational and training) starting from the regiment level. The separation in executing the 1st (Analysis) and 2nd (Implementation) stages of the LL process, as well as the low level of interaction between the two bodies, significantly reduced the organisational learning effectiveness within the UAF *(Dyson, T., Pashchuk, Y. 2022)*. Principally the following personnel formed the LLOS:

Tactical level – deputies of chiefs of staff, and heads of operational sections.

Operational level – military scientific teams (2-3 officers).

Strategic level – the Military-Scientific Department in the UAF General Staff.

In practice, these bodies were only partially involved in studying of exercises, as such responsibilities were usually transferred to the training cells, who also were directly tasked with international military events. In fact, all commanders and the UAF officers should have been engaged in the LL practices since it was their duty. However, as is often the case with the notion that "if everyone is responsible, no one truly is", the organisational learning of military exercises within the UAF during the "Decline" stage can be seen more as a declaration than a carefully planned and effective execution *(Dyson, T., Pashchuk, Y. 2022)*.

From 1991 to 2014, the UAF lacked a standardized approach to the LL process due to the absence of a relevant legal framework. An exception was the "Directive on Organizing Participation of National Contingents (Personnel) of the UAF in International Peace Support Operations (PSO)", which was adopted in 2011. It primarily outlined the LL tasks for units that took part in PSOs, but did not identify coordinating LL bodies and did not contain the LL procedures.

While many countries developed formal military learning following the end of the Cold War, the UAF continued to rely on a semi-formal approach inherited from the Soviet Armed Forces. Mainly it involved the submission of partial LL data within specific sections of reporting

documents, as well as the analysis and sharing of such information. The effectiveness of this LL process was low, primarily due to the lack of interest of personnel in submitting observations on negative experiences, as well as the overall poor LL studying and information assurance. As a result, the LL data predominantly moved through the chain of command in a bottom-up manner, where it was insufficiently analysed before being redistributed downwards and largely used as reference material. Overall, from December 1991 to April 2014, the UAF employed a deficient semi-formal LL process that did not align with the conditions and demands of that time.

The primary methods for gathering LL information from exercises during the 1st stage of Ukrainian forces training included: collection of formal observations within reporting documents, study of informal observations and analysis of results from exercise research teams' activities.

The following key tools were employed for the LL sharing: briefings, after actions reviews, printed publications, mass media, and the Internet. Compared to NATO LL Capability, the UAF produced a smaller number of LL bulletins that were mainly focused on blaming personnel, imposing punitive measures and enforcing restrictions. There were far fewer instances where adequate analysed lessons and best practices from training were communicated to the UAF personnel. Moreover, the study of exercise experiences of other armed forces was conducted through the lens of Russian strategic thinking.

Due to insufficient funding, the introduction of modern information technologies in the UAF occurred at a slow pace, considerably lagging more advanced nations. Thus, the UAF did not possess an LL database until November 2017 *(Dyson, T., Pashchuk, Y. 2022: 8)*, whereas some NATO members had used such databases since the 1980s *(Landry, A. 1989: 170)*. Consequently, the average time between the submission of observations and the return of their analysis to troops was approximately 3 months *(Pashchuk, Y., Pashkovskyi, V., 2023)*.

Predominantly the organisational learning of exercises in the UAF from 1991 to 2014 was characterized by low "potential absorptive capacity" and extremely limited "realized absorptive capacity" *(Dyson, T., Pashchuk, Y. 2022: 7, 9)*. This was evident in the slow and insufficient implementation of lessons identified (LI) and potential best practices (PBP) derived from the analysis of training experiences. The primary challenge for the UAF at that time was their foundation on the Soviet Armed Forces principles, which extended to the SLAD's operation, resulting in its low efficiency. Consequently, by early 2014, the Ukrainian forces were inadequately prepared to counter Russian aggression.

2.2. "Modernization" in the Ukrainian troops' training
(April 2014–February 2022)

Russia's war against Ukraine forced the UAF leadership to radically change approaches to training, which marked the beginning of its 2nd stage "Modernization". Its timeframe coincided with the 3rd phase of the SLAD functioning ("Adaptation") and the 1st phase of the LSS operation ("Formation") *(Pashchuk, Y., Pashkovskyi, V., 2023)*. Since the beginning of the war, the UAF have introduced considerable changes in organisational learning *(Dyson, T., Pashchuk, Y. 2022)*:

A centralized LLOS was formed mainly at the operational and strategic levels, and predominantly in the Antiterrorist Operation zone.

The relevant LL regulatory framework was launched, and the semi-formal LL process was improved.

A formal list of urgent LL reports was introduced.

The mobile LL teams were widely employed to improve capturing and studying observations.

The Interactive Electronic LL Database (IELLD) was launched in November 2017.

In contrast to learning from operations, the Exercises LL Subsystem within the UAF has not undergone serious adjustments and remained largely ineffective in generating lessons learned and best practices from training.

In November 2018, the UAF initiated a prospective LLS *(Plan 2018)*, prompted by the low effectiveness of the previous SLAD and Ukraine's goal toward achieving Alliance membership. This effort was carried out in collaboration with the NATO Representation to Ukraine aiming to meet the objectives of the "LL Capability Development Programme" *(NRU 2020: 1-2)*. Certain aspects of the LLS Roadmap *(Plan 2018)*, such as the expansion of the UAF LLOS at all levels, were completed promptly. Other key points, implementation of the NATO LL process and organisation of LL training, were carried out with serious delays, and the creation of the LL Portal, scheduled for June 30, 2021, has not yet been completed.

First, by December 30, 2019, the relevant LLOS was formed and included *(Doctrine 2020: 18)*:

Lessons Learned Staff Officers (LLSO): responsible for organizing the LL process within their units (bodies).

Lessons Learned Points of Contact (LL POC): assist LLSOs in ensuring the LL process operation.

The primary advancement involved the unification of LL agencies at the strategic and operational levels, and this mainly concerned the Operations LL Subsystem. However, no dedicated LL bodies were established to manage the systematic learning from exercises that hindered the use of adequate mechanisms for transferring LL across various levels of command, significantly diminishing the effectiveness of Ukrainian forces training.

The dominant area of the LLS Roadmap was the implementation of the NATO standardized LL process *(Plan 2018: 1-2)*. Approval of the "LL Doctrine" *(Doctrine 2020)* and "Temporary LL Standard Operating Procedures (SOP)" *(SOP 2020)* in July 2020 marked a final shift from the semi-formal to a formal approach in organisational learning within the UAF achieving compatibility with the Alliance *(Dyson, T., Pashchuk, Y. 2022)*. In this regard, the results of the 'pilot' experiment on implementing the NATO LL procedures during the "Rapid Trident 2019" proved invaluable. The potential lessons and best practices were captured by the NAA research group through "Post Event Reporting" and "Post-Exercise Interviews" using the following methods *(NATO 2010: 12; NATO 2020: 83-89; NATO 2022: 27-28)*:

Monitoring the activities of personnel that took part in the manoeuvre.

Analysing the planning and reporting exercise documents.

Surveying the participants with questionnaires in Ukrainian and English.

The study results indicated active cooperation from both Ukrainian and foreign military personnel, supporting the assertion that most NATO representatives were well-versed in the functioning of the LL process, whereas the UAF servicemen required additional LL training *(Pashchuk, Y., Prokhovnyk, P., Fedorenko, V. 2020: 13-14)*. Furthermore, the experiment demonstrated that Ukrainian soldiers were able to rapidly and effectively acquire the skills needed to apply formal LL procedures.

A major advancement in enhancing the LLS effectiveness was the introduction of dedicated LL training at the NAA:

From May 18 to 20, 2021, the LL course was conducted with the involvement of a mobile training team from the NATO Joint Analysis and Lessons Learned Centre (JALLC): 25 LLSOs and 18 LL POCs were trained.

From June 14 to 18, 2021, the first national LL course was held: 11 LLSOs and 8 LL POCs graduated.

From October 18 to 23, 2021, the second national LL course was completed: 8 LLSOs and 12 LL POCs were instructed.

The national courses included theoretical and practical sessions on analysing the LL from exercises based on the key provisions of "LL Doctrine" and "Temporary LL SOP" as well as "Methodological Guidelines for Organizing and Conducting Research at Operational and Combat Training Events in the UAF" *(Guidelines 2018)*. In the first two documents, the learning of the exercises' experiences was hardly considered. It was only briefly mentioned in the "SOP 2020" that LL analysis of training should be conducted "as part of activities of the exercise research teams during the training" *(SOP 2020: 62)*. Furthermore, these documents did not contain any references to the "Guidelines 2018", despite this directive being the primary framework for obtaining LL from the UAF training. Besides, the "Guidelines 2018" included comprehensive instructions for developing the exercise research's objectives, as well as the methodology for forming the research teams. The document also defined the main stages of exercise research *(Guidelines 2018: 5-8)*:

1) Determining research objectives before the exercise.
2) Conducting research during the exercise.
3) Analysing research results and developing recommendations after the exercise.

Despite these innovations, the directive did not specify which bodies were responsible for submitting observations from exercises, nor did it provide an algorithm or timeline for their capturing. Principally, the "Guidelines 2018" on learning from exercises did not align with NATO standards. This discrepancy limited the ability of the UAF to fully integrate the effective NATO LL procedures into their training, thus hindering their overall employment effectiveness.

After 2014, the UAF continued using the same LL tools that had been in place before the Russo-Ukrainian War. Although the creation of the LL database was planned as early as 2014, the IELLD was not launched until November 2017. However, this database operated obsolete software, contained only open LL information, and did not ensure reliable and quick access for the UAF personnel. Then the LLs were mainly disseminated through print and electronic periodicals and urgent bulletins. After the introduction of the Electronic Document Management System in mid-2018, the mean speed for lessons learned sharing was increased from 3 months to 2 *(Pashchuk, Y., Pashkovskyi, V., 2023)*.

Hence, the training of Ukrainian forces underwent major modernization due to Russia's war with improvements in the UAF learning from operations but limited progress in exercises. The centralized LLOS, NATO LL process, national LL courses, and IELLD were introduced after 2014. Despite these efforts, no dedicated LL personnel was used for systematic learning from training, and the functioning of the Exercises LL Subsystem did not meet NATO standards. Besides, the outdated IELLD, insufficient coverage, and slow sharing of lessons from exercises continued to pose challenges for the improvements of UAF training and employment.

3. Analysis of organisational learning of military exercises within NATO (1991–2022)

It is important to acknowledge the considerable distinctions in organisational learning between the UAF and NATO, especially from 1991 to 2014. During this period, NATO LL practices underwent fundamental changes. One of the first coordinative LL bodies within NATO was the Permanent Maritime Analysis Team (PMAT) *(JALLC 2022)*. In 1997, after it became apparent that NATO LL Capability was "insufficient", the Alliance leadership decided

to establish the Joint Analysis and Lessons Learned Centre based on the PMAT *(NATO 2022)*, *(JALLC 2022)*. September 2, 2002, when the JALLC staff officially began its activities, can be considered as a starting point of the NATO Joint Lessons Learned System *(Dixon, N. 2011; JALLC 2022)*.

A core principle underpinning NATO LL Capability is the engagement of all personnel in the LL process: "Everyone within an organization needs to be involved in learning lessons for a formal approach to learning to be successful" *(NATO 2022: 11)*. The formal LL process, which has been continuously improved, is a primary "pillar" of the NATO JLLS to appropriately develop LLs and ensure their sharing and utilizing *(NATO 2022: 14)*.

The most important innovations in the definition and structure of the LL process were submitted in the NATO guidelines in 2010, 2018, and 2022. The first volume of the "NATO LL Handbook" *(NATO 2010)* introduced the LL process as "a procedure for deliberately staffing observations arising from an activity until a LL is reached" and covered three key phases *(NATO 2010: 2-10)*:

1) "Identification": Activities from reporting an observation to approving the lesson identified.

2) "Action": Changing existing practices based on the lesson learned.

3) "Institutionalization": Communicating the changes from obtaining the implemented lesson.

A modernized LL process has been introduced in the "NATO LL Directive" *(NATO 2018)* and in turn was implemented in the UAF in mid-2020. The fourth edition of the "NATO LL Handbook" *(NATO 202: 17)* states: "The LL process is part of a formal approach to organisational learning that deliberately processes observed issues arising from an activity until either a LL is reached, or the lesson is rejected/noted for various reasons". The last version of the standardized LL process involves two main stages *(NATO 2022, p. 18)*:

1) "Analysis" (1.1. Plan, 1.2. Observe, 1.3. Analyse): Producing lesson identified and potential best practice.

2) "Implementation" (2.1. Decide, 2.2. Implement and validate, 2.3. Share): Achieving lesson learned and best practice.

To organize formal learning a robust LLOS was established at the beginning of the 20th century and was continuously renovated. It currently includes the following key bodies *(NATO 2018; NATO 2022):*

NATO Joint Analysis and Lessons Learned Centre.

Lessons Learned Staff Officers.

Lessons Learned Points of Contact.

Local NLLP Managers for the NATO LL Portal.

NATO Bi-SC LL Steering Group, a collective body that coordinates and controls the execution of NATO LL policy.

Centers of Excellence that provide subject matter expertise to assist in the LL analysis.

Cross-functional LL Working Groups and Boards, which facilitate solving all LL-related issues.

The LL training for the NATO personnel means "providing staff with the skills and knowledge to fulfil their LL roles effectively" *(JALLC 2022: 14)*. It is organized through the following primary courses *(JALLC 2022: 13; NATO 2022: 16-17)*: JALLC Analyst Training Course, NATO LLSO Course, NATO LL Online Course, and NATO LL Management Course. In addition, various LL seminars, scientific conferences, and training sessions with NATO leadership and LL officers were regularly held within the Alliance.

NATO LL tools were mostly used for the collection, storage, archiving, tracking, and dissemination of LL information. Among these means, the leading one has been and remains the NATO LL Portal *(NATO 2022: 14)*. It was created in 2010 and became fully operational in 2013, replacing the NATO LL Database, which had been in use since 2005 *(JALLC 2022)*. The Portal highly improved the sharing of acquired experience and enhanced the reliability of authorized users' access to the full range of LL data. Its main advantage is the instant and wide sharing of LL information circulating within the NATO JLLS.

The essential difference between the NATO's and UAF's Exercises LL Subsystems is the employing of Alliance additional LL bodies, as well as using of special reporting rules during and after exercises. For example, the capturing of observations and providing their preliminary analysis is based on the Post-event reports that usually include first impression reports, after-action reviews, and final exercise reporting *(NATO 2022: 27-28)*. In this context, a key NATO document regarding the organisational learning of exercises is the "Bi-SC Collective Training and Exercise Directive 075-003" *(NATO 2022: 42)*. Three major versions of this Directive, issued in 2010, 2013, and 2020, continuously refined the procedures for collecting observations, analysing lessons, and making decisions on LI and PBP obtained from exercises. In the latest edition of the Directive, the consecutive exercise stages and phases are defined *(NATO 2020: 24-25)*:

1st stage "Concept and Specification Development".

2nd stage "Planning and Product Development".

3rd stage "Operational Conduct" includes four phases: 3.1. "Foundation Training"; 3.2. "Crisis Response Planning"; 3.3. "Execution"; 3.4. "Assessment".

4th stage "Analysis and Reporting".

Additionally, the above document outlines the roles and responsibilities of personnel involved in planning and executing exercises *(NATO 2020: 24-29)*:

Officer Scheduling Exercise (OSE): leads the 1st stage and is responsible for developing the Exercise Specification.

Officer Conducting Exercise (OCE): leads the 2nd stage and is in charge of developing the Exercise Plan.

Officer Directing Exercise (ODE): responsible for executing the Exercise Plan and conducting the exercise during the 3rd stage.

The 4th stage "Analysis and Reporting" is a central period for capturing LI and PBP from exercises and involves the following LL procedures *(NATO 2020: 83-89)*:

1. The ODE must no later than 15 days after the exercise submit to the OCE: the "First Impression Report", "Evaluation Report", "Training Analysis Report" and Annex to the "LI" Report.

2. Each participating organisation should submit its "LI" Report to the OCE no later than 15 days after the exercise.

3. The OCE:

Leads Post Exercise Discussion and conducts its Report within approximately 30 days of completing the exercise, summarizing observations and indicating whether they were approved or rejected.

Prepares "Final Exercise Report" and sends it to the OSE no later than 60 days after the exercise.

Develops the "LI List" based on the "Final Exercise Report" or the "Training Analysis Report".

4. The OSE prepares a "LI Action Plan" and assigns tasking authorities and action bodies responsible for implementing the lessons.

5. The OCE provides a "Remedial Action Report" no later than 90 days after the exercise.

This comprehensive LL reporting algorithm allows for a structured and timely approach to capturing and processing experiences from exercises. It ensures that key lessons and best practices are systematically documented, analysed, and disseminated across all relevant levels. Moreover, the NATO LL Portal serves as a centralized digital platform designed to facilitate the above LL reporting from exercises across the Alliance. It allows the participants to submit observations, track their progress, and access a wide array of LL reports and data. This approach ensures that learning from exercises is systematically integrated into planning and doctrinal documents, thus improving overall operational effectiveness and interoperability within NATO.

4. Conclusions

Based on the comparative study of organizational learning of military exercises in the UAF and NATO (December 1991–February 2022), which analysed five key components (organizational structure, process, tools, training, and information sharing) ensuring such activities, the following conclusions can be drawn:

From December 1991 to April 2014 the training of Ukrainian troops was in a state of decline. During this period, the UAF significantly lagged behind NATO member countries in organizing analysis and implementation of exercises' lessons learned and best practices. The existing System of Lessons Analysis and Dissemination operated in a semi-formal manner, which greatly reduced the effectiveness of learning from training. The absence of a centralized LL structure, insufficient coordination among LL bodies, and inadequate informational support resulted in the low ability of the UAF to adapt and transform new knowledge from exercises. Consequently, the UAF's capability to counter Russian armed aggression was significantly compromised.

From April 2014 to February 2022, the UAF underwent a modernization phase in operational and combat training, driven by Russia's war against Ukraine. Since January 2019, considerable improvements have been made in the UAF organisational learning, particularly with the establishment of the Lessons Learned System aligned with NATO standards, focusing on studying lessons from operations. The key developments included the revisions to the LL regulatory framework, the formation of a centralized LL structure in 2019, the introduction of the NATO LL process within the UAF in 2020, and the creation of a training LL system in 2021.

Despite these advancements, no radical changes or serious progress were achieved in the analysis and implementation of lessons from exercises. The primary reason for this was the substantial discrepancies between UAF doctrinal documents and NATO's corresponding requirements, leading to only partial and fragmented adoption of the Alliance's best practices in organizational learning of military exercises. Furthermore, one of the key limitations to the UAF LL capability for learning from exercises was the absence of the LL Portal resulting in low efficiency of LL sharing and unreliable access to critical LL information.

References

1. Dixon, N. (2011). A Model Lessons Learned System – The US Army. 2011 Best Practices for Government Libraries. E-Initiatives and e-Efforts: Expanding our Horizons. Lexis Nexis, 227-231 Retrieved from: http://www. lexisnexis.com/tsg/gov/best_practices_2011.pdf.
2. Doctrine (2020). Doktryna z vyvchennia ta vprovadzhennia dosvidu u Zbroinykh Sylakh Ukrainy [Lessons Learned Doctrine in the Armed Forces of Ukraine]. VKP 7-00(01).01.

Zatverdzhena nachalnykom Heneralnoho shtabu Zbroinykh Syl Ukrainy 30.06.2020 r. Vykh. № 1928/NVHSh vid 03.07.2020 r. 30 s. [In Ukrainian].

3. Dyson, T. (2019). Organisational Learning and the Modern Army: A New Model for Lessons-Learned Processes. Abingdon: Routledge. 272 p.

4. Dyson, T., Pashchuk, Y. (2022). Organisational learning during the Donbas War: the development of Ukrainian Armed Forces lessons-learned processes. Defence Studies. Volume 22, 2022 – Issue 2: 141-167. https://doi.org/10.1080/14702436. 2022.2037427.

5. Guidelines (2018). Metodychni rekomendatsii shchodo orhanizatsii ta provedennia doslidzhen na zakhodakh operatyvnoi ta boiovoi pidhotovky Zbroinykh Syl Ukrainy [Methodological Guidelines for Organizing and Conducting Research at Operational and Combat Training Events of the Armed Forces of Ukraine]. Heneralnyi shtab Zbroinykh Syl Ukrainy, 25.05.2018 r. 21 s. [In Ukrainian].

6. JALLC (2022). Joint Analysis and Lessons Learned Centre. Lisbon: NATO Joint Analysis and Lessons Learned Centre, 2022. URL: https://www.jallc.nato.int/application/ files/4316/1469/2979/NEW_JALLC_Brochure.pdf

7. Landry, A. (1989). The Joint Lessons Learned System and Interoperability. A thesis presented to the Faculty of the U.S. Army Command and General Staff College, 1989. 222 p.

8. Leavitt, C. (2011). A Comparative Analysis of Three Unique Theories of Organisational Learning. Institute of Education Sciences Publications. September 14, 2011. URL: https://files. eric.ed.gov/fulltext/ED523990.pdf.

9. NATO (2010). The Lessons Learned Handbook. Joint Analysis and Lessons Learned Centre. Lisbon, Portugal. First Edition, October 2010. 55 p.

10. NATO (2018). Two Strategic Command's (Bi-SC) Directive 080-006. Lessons Learned. 23 February 2018. NATO Unclassified. 25 p.

11. NATO (2020). Bi-SC Collective Training and Exercise Directive (CT&ED) 075-003, 28 January 2020. NATO Unclassified. 263 p.

12. NATO (2022). The NATO Lessons Learned Handbook. NATO Joint Analysis and Lessons Learned Centre. Fourth Edition, June 2022. 59 p.

13. NRU (2020). NATO Representation to Ukraine. Letter NRU 2020/082, Kyiv, Ukraine, 21 August 2020. 10 p.

14. Pashchuk, Y., Prokhovnyk, P., Fedorenko, V. (2020). Military-Historical Aspects of Multinational Military Exercise Rapid Trident-2019. Viiskovo-naukovyi visnyk. Lviv, NASV. Vypusk №33, 2020, 3–18. https://doi.org/10.33577/2313-5603.33.2020.3-18.

15. Pashchuk Y., Pashkovskyi V. (2023). Stanovlennia Systemy vyvchennia i vprovadzhennia dosvidu Zbroinykh Syl Ukrainy ta yii transformatsiia v umovakh povnomasshtabnoi rosiisko-ukrainskoi viiny (24.02.2022–2023) [Formation of the Lessons Learned System in the Armed Forces of Ukraine and its transformation during the large-scale Russo-Ukrainian War (24.02.2022-2023)]. Voienno-istorychnyi visnyk. Vypusk 3(49), Kyiv, NUOU, 2023, s. 26-35. [In Ukrainian].

16. Plan (2018). Plan stvorennia u Zbroinykh Sylakh Ukrainy perspektyvnoi systemy uzahalnennia ta vprovadzhennia dosvidu [Roadmap to create a prospective Lessons Learned System in the Armed Forces of Ukraine]. Zatverdzhenyi nachalnykom Heneralnoho shtabu Zbroinykh Syl Ukrainy 27.11.2018. 7 s. [In Ukrainian].

17. Prokhovnyk P. (2023). Mizhnarodne viiskove spivrobitnytstvo Zbroinykh Syl Ukrainy v roky rosiiskoi ahresii (2014 – 2021 rr.): istorychnyi kontekst [International military cooperation of the Armed Forces of Ukraine during the Russian aggression (2014-2021): Historical Context]. Candidate's thesis. Lviv: NASV. [In Ukrainian].

18. SOP (2020). Tymchasova instruktsiia vyvchennia ta vprovadzhennia dosvidu u Zbroinykh Sylakh Ukrainy [Temporary Standard Operating Procedures to heads of military command and control bodies and commanders of military units on studying, summarizing, and implementing the experiences of troops (forces) in the Anti-Terrorist Operation]. VKDP 7-00(01).01. 15 lypnia 2020 r. 72 s. [In Ukrainian].

19. Waliński Z. (2016). The Role of a Commander in Military Lessons Learned Systems. March 2016, Journal of Corporate Responsibility and Leadership 2(1), 95-106. https://doi. org/10.12775/JCRL.2015.006.

20. Wilk, A. (2017). The best army Ukraine has ever had. Changes in Ukraine's Armed Forces since the Russian aggression. Warsaw: Centre for East Studies. 44 p.

THE RIGHTS OF NATIONAL AND RELIGIOUS COMMUNITIES UNDER THE CONSTITUTIONS OF INTERWAR LITHUANIA (1918–1940)

Artem Petryk

Candidate of Historical Sciences (PhD), Senior Research Fellow,
Institute of Baltic Region History and Archaeology, Klaipeda University, Lithuania
e-mail: artem.petryk@ku.lt, orcid.org/0000-0002-5620-4729

Summary

16 February 1918 The Council of Lithuania proclaimed the act of full independence of Lithuania. However, the country managed to get a chance for freedom only after the end of the First World War (1914–1918). For Lithuania, however, the World War transformed into the War of Independence (1919–1923). The young country was confronted by new imperial geopolitical projects. The success of the struggle of the Lithuanian people and army led to the establishment of the state's independence and its gradual recognition in the international arena. Representatives of various ethnic groups that had long-lived in the country took an active part in the struggle for a free Lithuania and the development of its state institutions. Often, ethnic communities were distinguished by their belonging to different religious traditions. In this article, we aim to examine how the issue of the rights of national minorities and religious organisations was covered in the constitutions of Lithuania in the interwar period. In this research, we analyse the provisions of the entire range of relevant normative documents, namely, the provisional constitutions of 1918, 1919, 1920; the constitutions of 1922, 1928, 1938. In addition, the focus of our investigation is on the rights of ethnic and religious communities in the Klaipeda region, according to the Paris Convention and the Memel Statute of 1924, attached to it. We have also paid attention to the aspect of the draft monarchical constitution of Lithuania of 1918. Such an analysis is carried out for the first time in the framework of Ukrainian Lithuanistic studies. It is relevant both to the study of the history of the interwar Lithuania (1918–1940) and the history of the state and law of the Baltic States of the same era. This determines the relevance of our work.

Key words: interwar period, Republic of Lithuania, constitution, parliamentarism, authoritarianism, national communities, religious institutions.

1. Introduction

Since the third partition (1795) of the Republic of Both Nations, which resulted in the liquidation of the Grand Duchy of Lithuania, Lithuania experienced a long period of non-statehood. Most of the ethnic Lithuanian territories were part of the Russian Empire. During the First World War (1914–1918), the Lithuanian territory became a battlefield. Lithuania was under German occupation. In these difficult circumstances, however, the national movement aimed at restoring statehood became more active. In September 1917, the representative body of the Lithuanian people, the Tariba (Council), was established in Vilnius.

In December 1917, the Council of Lithuania, as the "sole authorised representative of the Lithuanian people", proclaimed the restoration of the Lithuanian state with its capital in Vilnius. However, under the German occupation, Lithuanian elites were forced to establish an "eternal

and lasting alliance" with the German Empire. First of all, the union concerned the military, transport, currency and customs sectors (*Gimžauskas (sud.), 2006: 254*).

It was only the first stage on the way to real independence. 16 February 1918 The Council of Lithuania proclaimed the act of full independence of Lithuania *(Jakubčionis, 2015: 720–721)*. Despite Berlin's negative reaction, the Lithuanian authorities continued to defend the young country's right to real sovereignty. However, the country managed to get a chance for freedom only after the end of the First World War when Germany and its allies were defeated. For Lithuania, however, the World War transformed into the War of Independence (1919–1923). In that war, Lithuania was confronted by new imperial geopolitical projects. The success of the struggle of the Lithuanian people and army led to the establishment of the state's independence and its gradual recognition in the international arena.

Representatives of various ethnic groups that had long-lived in the country took an active part in the struggle for a free Lithuania and the development of its state institutions. Often, ethnic communities were also distinguished by their belonging to different religious traditions. According to the 1897 national census, the largest national community, after Lithuanians (who accounted for 61.6%, Žemaitis, an ethnographic group of the Lithuanian people, were designated as a separate nationality) in the territories of the then Vilnius, Kovno and partially Suwalki provinces, were Jews (13%). Poles made up 9.7% of the population, and Belarusians 4.7%. Germans accounted for more than 4% *(Petryk, 2020: 206)*.

The military events of 1914–1923 changed Lithuania's ethnic composition. Within the sovereign Republic of Lithuania, according to the 1923 census, the share of Lithuanians increased to almost 84% of the population. As 26 years earlier, the largest ethnic communities remained Jewish (almost 7.6%) and Polish (over 3.2%) (*Lietuvos gyventojai…, 1923: XXXVI*) (according to the Polish side, there were 10% of ethnic Poles in Lithuania, although this figure was obtained using a rather specific formula by taking into account the votes cast for candidates from the Polish minority in the elections to the Lithuanian parliament. Notably, the census used the language principle to determine nationality *(Petryk, 2020: 206–207)*).

Thus, ethnic minorities constituted a significant element of Lithuanian society. Their value and representation increased with the further expansion of Lithuania's borders, due to the infusion of ethno-religious communities from the Klaipeda region. In religious terms, Lithuania was dominated by the influence of the Catholic Church, with the Holy See of which the Republic signed a concordat in 1927. The presence of Jewish, Protestant and Orthodox elements was also significant.

In this research, we aim to examine how the issue of the rights of national minorities and religious organisations was reflected in the constitutions of Lithuania in the interwar era. We analyse the provisions of the entire array of relevant normative documents, namely: Provisional Constitutions of 1918, 1919, 1920; Constitutions of 1922, 1928, 1938. In addition, the focus of our investigation is on the rights of ethnic and religious communities in the Klaipeda region, according to the Paris Convention and the Memel Statute of 1924, attached to it. We have also paid attention to the aspect of the draft monarchical constitution of Lithuania of 1918.

Such an analysis is carried out for the first time in the framework of Ukrainian Lithuanistic studies. It is relevant both to the study of the history of the interwar Lithuania (1918–1940) and the history of the state and law of the Baltic States of the same era. This determines the relevance of our work.

2. Previous research

Issues related to the constitutional construction of the Lithuanian state in the interwar period have traditionally attracted the attention of numerous researchers, both Lithuanian and

foreign. This applies to the works of contemporaries of the creation and development of Lithuanian Republic in the first half of the twentieth century, as well as representatives of the post-war generation of researchers who created their scientific content after the end of the Second World War. At the present stage (after the restoration of Lithuania's independence in 1990–1991), among others, the scientific works of such Lithuanian scholars as M. Maksimaitis, G. Šapoka, J. Machovenko, P. Vinkleris and a number of other researchers are worth mentioning. Over the past few decades, several generalised works on the history of constitutional law in Lithuania have been published. Particularly noteworthy are the works in which an important place is given to the constitutions of the interwar period. Among these are the collective works of leading legal historians "History of Lithuanian Constitutionalism [...]" (*Lietuvos konstitucionalizmo istorija…, 2016*), published in 2016, and "Lithuanian Constitutionalism: origins, development and modernity". The book was published in the year of the centenary of the restoration of Lithuanian statehood (2018) (*Lietuvos konstitucionalizmas…, 2018*).

Among foreign researchers of the history of the state and law of interwar Lithuania in general, and constitutional building in particular, Polish scholars are particularly productive. Among the contemporary researchers of the issue, we name such representatives of Polish scientific institutions as P. Kierończyk, K. Prokop, M. Malužinas. P. Kierończyk is the author of an important comparative analysis of the constitutions of Poland (1935) and Lithuania (1938) *(Kierończyk, 2006)*, as well as a thorough work on the history of the constitutional system of the Lithuanian state in 1922–1940 *(Kierończyk, 2008)*.

The direction of Ukrainian historical lithuanistics, which is related to the study of the history of the state and law of the interwar period, is currently in the process of formation. The issues we have outlined are only coming into the focus of attention of domestic scholars and continue to await serious development. The combined format of the analysis of national and religious issues in the context of the main legal acts of Lithuania (1918–1940) offered by us is not common in the scientific works of specialists in this research vector.

3. The issue in the context of the draft monarchical constitution (1918) and the provisional constitutions of Lithuania (1918, 1919, 1920)

In the summer of 1918, Lithuania could well have chosen the monarchical vector of development. The project of the sovereign Kingdom of Lithuania was supported by a significant part of the legislative body, the Tariba. In order to prevent Lithuania's personal union with the Prussian royal and German imperial houses of Hohenzollern, the Tariba made a manoeuvre and offered the crown to a representative of the House of Württemberg.

In July 1918, The State Tariba (the transformed successor of the Lithuanian Tariba) passed a resolution to elect Duke Wilhelm von Urach, Count of Württemberg, inviting him to take the throne in Vilnius. A hereditary constitutional monarchy headed by a Catholic ruler was proclaimed in the country (*Gaigalaitė and Skirius (sud.), 1993: 121*). Duke Wilhelm had to sign the conditions put forward by the Tariba praesidium. The demands were formalised in the form of a 12-article *pacta conventa*, called the "Basic Draft of the Lithuanian Monarchical Constitution".

This document established the foundations of the country's internal structure and regulated the distribution of powers between the branches of the central government. The "Basic Draft" proclaimed the basic principle of the country's religious policy – the king undertook to respect the freedom of religious practice for his own subjects (Article VI). The document did not contain separate articles guaranteeing the rights of national minorities in Lithuania. At the

same time, the ethnic and linguistic preference of Lithuanians and the Lithuanian language was clearly stated. Lithuanian was declared an official language at all levels, including the royal court (Art. IX). At his court, the monarch could choose only Lithuanians who knew the official language and constantly used it. An exception was made only for the first 5-year period of William's reign (he himself, upon accession to the throne, had to take the Lithuanian name of Mindaugas II). At this transitional stage, foreigners could be involved in the management of the court, but not more than in the proportion of 1 to 3 in relation to Lithuanians (Art. X) (*Gimžauskas (sud.), 2006: 318*).

The draft monarchical constitution was never implemented. Despite the fact that Wilhelm von Urach agreed to the demands of Tariba, signing the document for himself and his male descendants. Geopolitical circumstances changed. "The Central States" were on the verge of defeat in the First World War. The Lithuanian leadership was decisively breaking free from the grip of Berlin's protectorate. 2 November 1918 The State Council of Lithuania cancelled its July resolution on the election of the king and left the question of the future structure of the country in limbo. The right to determine it was transferred to the Constituent Assembly (*Eidintas and Lopata (sud.), 1991: 369*), which was to be elected in the near future. Yet, it took several years to get there. As mentioned earlier, Lithuania was caught up in the whirlwind of the liberation struggle after the World War. The War of Independence finally put Lithuanian elites back on the track of republicanism. In that critical period, the work of Lithuanian legislators nevertheless proved fruitful. Three provisional constitutions were adopted.

The first of them was adopted in November 1918. According to the "Basic Provisions of the Provisional Constitution of the State of Lithuania", the country was governed by a temporary and collective head of state consisting of three members of the Praesidium of the State Council (Sect. III, Art. 9). It should be noted that the interim fundamental law did not include separate structural elements defining the rights of national minorities and religious communities. However, for the first time, equality before the law was guaranteed for all citizens without distinction of gender, nationality, religion or social status. The document also proclaimed the elimination of all class privileges (Sect. V, Art. 22). (*Lietuvos Valstybės Laikinosios Konstitucijos…,1918:3*).

In the midst of the Soviet-Lithuanian armed conflict (1919–1920), the Lithuanian State Council adopted the second provisional constitution of the country (4 April 1919). The document contained a number of important innovations. In particular, the post of the President of the State was introduced. Together with the State Council and the government, he constituted the Supreme State Authority (Sect. I, Art. 1).

As for the rights of citizens, there were some changes compared to the previous interim constitution. As before, equality of all before the law was guaranteed (Sect. VI, Art. 26). In addition, Article 27 of the interim constitution guaranteed, among other things, freedom of religious belief. However, this document also lacked details of the rights of ethnic and religious communities (*Lietuvos Valstybės Laikinosios Konstitucijos…,1919: pried.*).

The third provisional constitution (June 1920) was an important event for the state. It finally established a stable democratic system in Lithuania. The republican vector of the country's development was established. This was established in Article 1 of the Provisional Basic Law. The basis of parliamentarism was created in the country with a strong legislative body – the Seimas, which was proclaimed to be the expression of the sovereign will of Lithuania (Sect. I, Art. 2). Lithuania was entering an era of parliamentary democracy known in history as "Seimocracy" (1920–1926). However, the Provisional Constitution of 1920, compared to its predecessor, did not contain any changes in terms of securing the rights of national and religious

communities. Instead, once again, along with the equality of all citizens before the law (Sect. V, Art. 15), freedom of religion and conscience was confirmed (Sect. V, Art. 16) *(Laikinoji Lietuvos Valstybės Konstitucija, 1920:1)*.

4. Rights of national communities and religious structures under the Constitution of Lithuania of 1922

The laconicism of the temporary constitutions of 1918–1920 was compensated for by the first constant Constitution of the Lithuanian state, adopted by the Constituent Seimas on 1 August 1922. At that time, the active phase of the full-scale war for freedom was over. The sovereignty of the Republic of Lithuania was established over most of the ethnic Lithuanian lands. The only exceptions were the Vilnius region (lost as a result of the Polish-Lithuanian war of 1919–1920) and the Klaipeda region, which would be attached to Lithuania the following year after the adoption of a permanent fundamental law.

The Constitution of 1922 can be considered the most democratic of the main normative documents adopted in Lithuania in the interwar period. It was the culmination of the state's loyalty to its citizens, which was recorded on paper. In it, the Republic demonstrated its open attitude towards national communities and religious structures.

Despite the fact that the Lithuanian nation was declared the source of the fundamental law (in the preamble) and the bearer of sovereign state power (Sect. I, Art. 1), the Constitution enshrined the impossibility of special privileges and restrictions on citizens on the basis of nationality, religion or origin (Sect. II, Art. 10). The state status of the Lithuanian language was confirmed, however, the use of local languages (languages of the largest national communities, A.P.) was allowed within the framework defined by separate laws of the Lithuanian state (Sect. I, Art. 6). At the same time, in the case of "special needs of local residents" (compact residence of ethnic minorities, A.P.), the formation of autonomous units was not excluded. Of course, within the rights and boundaries established by certain normative documents of Lithuania (Sect. I, Art. 5) *(Lietuvos Valstybės Konstitucija, 1922: 1)*.

In addition to these articles, a separate section (VII) was devoted to the rights of national minorities. In the case of a significant share of ethnic communities in certain areas, minorities were delegated the right of autonomy in cultural affairs. In particular, in matters of education and charity. In order to implement cultural autonomy, the state recognised the right of national communities to establish their own representative bodies (Sect. VII, Art. 73). Organised ethnic minorities were empowered to introduce separate taxation for their members for the needs of the cultural sector and education. This could be done if it was impossible to cover the necessary expenses through state or local government subsidies (Sect. VII, Art. 74) *(Lietuvos Valstybės Konstitucija, 1922:5-6)*.

It should not be forgotten that on the eve of the adoption of the Constitution, Lithuania joined the Declaration on the Protection of the Rights of National Minorities (12 May 1922) (text of the Declaration: *League of Nations Treaty Series (hereinafter – LNTS), 1924a*). This was an important step towards the integration of the Republic into the international community and its leading structures, such as the then representative League of Nations. Thus, the Constitution consolidated fundamental principles driven by the foreign policy context.

Citizens were guaranteed freedom of conscience and religion. However, belonging to a religious community or confession did not exempt from fulfilling one's duties to Lithuanian society (Sect. I, Art. 13) *(Lietuvos Valstybės Konstitucija, 1922: 2)*. This includes the duty to defend the homeland. The defence of the Republic was proclaimed to be the responsibility of

all citizens (Sect. VIII, Art. 75). Only representatives of the clergy (of all denominations and communities recognised in the Republic, A.P.), who were exempt from military service, could count on relief in this matter (Sect. X, Art. 83).

Section X of the Constitution is dedicated to matters of religion and worship. The Lithuanian state granted all recognised religious organisations the rights of legal entities. All legal religious structures were given equal opportunities to follow their own canons or statutes, and could preach their doctrine and perform religious rites. Like national communities, religious units were given the right to impose an internal tax on their members. The collected funds could be used for the needs determined by the religious organisations themselves. The latter had the privilege of opening and maintaining not only churches and monasteries, but also educational, upbringing, and charitable institutions. They could acquire and own movable and immovable property (Sect. X, Art. 83). The Republic reserved the right to legalise new religious communities and institutions, however, only if their beliefs and activities were in line with the norms of public order and morality (Sect. X, Art. 84).

The state equated the legal force of civil and church acts of birth, death and marriage. Their performance, within religious communities, was entrusted to the clergy (Sect. X, Art. 85). The Republic of Lithuania took under its protection religious holidays and Sundays, which were defined as "days of rest and spiritual uplift" (Sect. X, Art. 86). It established the obligation to provide free time for the religious needs of the members of the Lithuanian armed forces. The same was guaranteed to prisoners in penitentiary institutions and hospital patients (Sect. X, Art. 87).

Religious organisations gained considerable influence in the field of education. Private schools with church jurisdiction had the opportunity to access state funding if they fulfilled the minimum educational programme established by law (Sect. IX, Art. 82). Most importantly, the church maintained a significant presence in secular educational institutions. Religious instruction in schools was declared compulsory (with the exception of educational institutions established for the category of children whose parents do not belong to any religious organisation). The doctrine had to be taught in accordance with the canons of the denomination to which a particular student belonged (Sect. IX, Art. 80) *(Lietuvos Valstybės Konstitucija, 1922:6)*.

The Constitution guarantees the inalienability of the rights of national minorities and religious organisations even in the event of war, armed uprising or other threat to the state (the list of alienable constitutional rights in these circumstances is exhaustively given in Sect. III Art. 32 *(Lietuvos Valstybės Konstitucija, 1922:3)*).

5. National and religious issues in the framework of the legal consolidation of the autonomy of the Klaipeda region

In 1923, after a short armed conflict involving proxy forces, Lithuania gained control of Memeland. The region is also known as Klaipeda region. Until 1919, it belonged to Germany. As a result of the Treaty of Versailles, the region came under the control of the Entente – the victor in the First World War. Its military administration operated here until the end of the Lithuanian armed forces' operation.

Memeland was part of the ethnographic Lithuanian lands (historical Prussian Lithuania). Its accession created significant economic prospects for the Republic of Lithuania. The country gained a powerful port on the Baltic Sea – Klaipeda. At the same time, it also gained experience in the functioning of a special region within its borders. Lithuania signed a convention with the great powers (Great Britain, France, Italy, Japan and the United States), concluded in Paris in

May 1924. The Paris Convention was attached to the Memel Statute, which can be called a kind of constitution of the region.

The Klaipeda region was recognised as being under the undisputed sovereignty of Lithuania. At the same time, it was granted autonomy in legislative, judicial, administrative and financial matters (Art. 2 of the Convention) (*LNTS, 1924b:89*).

The ethno-religious composition of the population of the region (135 to 141 thousand people in the interwar period), which was small in area (2848 sq. km), was specific. As of 1925, 42% of residents identified themselves as Germans, 26.6% as Lithuanians, and 24.2% belonged to a special ethnographic group of the Lithuanian people – the Memelenders. The latter spoke a dialect of Lithuanian, professed Lutheranism, and, due to historical circumstances, were in the German cultural field. In general, Protestants made up the majority – 83.1% of believers, Catholics – 7%, and Jews – 5%. For comparison, in other regions of Lithuania, Catholicism demonstrated absolute dominance, with 85.7% of believers professing it *(Petryk, 2020: 238)*.

The Paris Convention and the Statute of Memel took into account the circumstances of the region and, as stated in the preamble to the Statute, aimed to "preserve the traditional rights and culture of its inhabitants" (*LNTS, 1924b: 95*).

The Klaipeda region was covered by the Declaration on the protection of the rights of national minorities (Art. 11 of the Convention) (*LNTS, 1924b: 91, 93*). At the same time, its implementation and compliance were under the jurisdiction of regional authorities (Art. 26 of the Statute) (*LNTS, 1924b: 103*). The competence of the autonomous authorities included, among other things, liturgical matters (Art. 5, paragr. 2 of the Statute) (*LNTS, 1924b: 97*). Freedom of conscience was guaranteed in the region without distinction of "nationality, race or religion", provided that public order and security of the state were respected (Art. 33 of the Statute) (*LNTS, 1924b: 105*). The Memel Statute directly implemented Art. 6 of the Constitution of Lithuania of 1922, as two official languages were introduced in the region – Lithuanian and German (Art. 27 of the Statute) (*LNTS, 1924b: 103*). In addition, some categories of citizens were granted a deferral from service in the Lithuanian armed forces until January 1930 (Art. 13 of the Convention) (*LNTS, 1924b: 93*). For the same period, the educational authorities of the region were granted a privilege to hire foreign teachers (primarily German citizens, A.P.) without the consent of the Lithuanian authorities. After 1 January 1930, this practice continued, but with the sanction of the Lithuanian state (Art. 31 of the Statute) (*LNTS, 1924b: 105*).

The above is not a complete list of self-governing rights of the region. Nevertheless, the regulatory documents of 1924 did not protect the region from conflicts. In fact, throughout the interwar period, Klaipeda region remained a "powder keg" for the Republic of Lithuania.

6. The rights of national minorities and religious communities
under the constitutions of the "Smetona period" (1928, 1938)

In December 1926, a coup d'état took place in Lithuania. With the support of military circles, the first president of the country, Antanas Smetona, returned to power. At the same time, the democratic period in the history of the interwar Republic of Lithuania came to an end. The establishment of authoritarianism led to the destruction of parliamentary achievements and changed the constitutional structure.

On May 1928, the country adopted a new fundamental law. It significantly strengthened the presidential institution and levelled the priority of the Sejm's will. In fact, at the time of the adoption of the Constitution, the Lithuanian parliament had not been functioning for a year. In 1927, the Seimas of the third convocation was dissolved.

The 1928 document formally confirmed the provisions of the 1922 Constitution in terms of guaranteeing the rights and privileges of ethnic minorities and religious organisations and communities. Thus, as before, the autonomy of certain parts of the country was allowed (Sect. I, Art. 6) and the possibility of official functioning of local languages (Sect. I, Art. 7) *(Lietuvos Valstybės Konstitucija, 1928:1)*. National minorities were left with the right to manage their own educational and cultural initiatives (Sect. VII, Art. 74) and, for these purposes, to tax members of national communities (Sect. VII, Art.75) *(Lietuvos Valstybės Konstitucija, 1928:4)*.

The equality of all citizens before the law was proclaimed without distinction of nationality and religion (Sect. II, Art. 11) and freedom of faith and conscience (Sect. II, Art. 14). To take care of the religious needs of groups of citizens, it was allowed to establish appropriate legal entities (Sect. II, Art.19) *(Lietuvos Valstybės Konstitucija, 1928:2)*.

Religious structures also retained the privileges enshrined in 1922 and listed above. These included influence on school education (Sect. IX, Art. 81), the right to own property and to establish religious, upbringing, educational and charitable formations (Sect. X, Art.84) *(Lietuvos Valstybės Konstitucija, 1928:4-5)*.

During the 1930s, the power of the president was absolutised. Lithuania was dominated by a one-party system with the pro-presidential Union of Lithuanian Tautininkai at its head. After a long break, the Seimas resumed its work in 1936. However, it was also controlled by the head of state and consisted of deputies loyal to it. In February 1938, the Parliament adopted a new Constitution of Lithuania. It was the largest (22 sections, 156 articles) among the Lithuanian constitutions of the interwar period. The document confirmed the triumph of "vadism" (the national Lithuanian version of autocracy) in the state.

The president, as a separate branch of the indivisible state power (Sect. I, Art. 4) *(Lietuvos Konstitucija, 1938: 237)*, was, in fact, accountable to no one. According to the oath, the head of state was responsible to God and Lithuanian history, not to the people. It was his duty to take care of the unity of the nation and the strength of Lithuania (Sect. X, Art. 65) *(Lietuvos Konstitucija, 1938: 240)*. He fully controlled the executive branch. In some cases, he replaced the parliament in the field of lawmaking and budget approval. In addition, the chief had a large number of other exclusive privileges. The Lithuanian state itself was called a republic (Sect. I, Art. 3) *(Lietuvos Konstitucija, 1938: 237)*, but its democratic character was no longer indicated *(Petryk, 2024: 158)*.

The rights of national minorities were mentioned briefly. The opportunities provided by the constitutions of the 1920s were no longer mentioned. The use of languages other than the state Lithuanian was allowed, but only within the framework of the law, indicating specific localities and public institutions where it was considered permissible (Sect. I, Art. 7) *(Lietuvos Konstitucija, 1938: 237)*. The autonomy of "separate Lithuanian lands" could be delegated by the Republic to "regulate certain local affairs" (Sect. XVI, Art. 127) *(Lietuvos Konstitucija, 1938: 244)*. The Klaipeda region remained the only self-governing administrative unit within Lithuania.

All citizens, as before, were declared equal before the law, without distinction of nationality and religion (Sect. III, Art.18). Citizens were free to choose their religion and were guaranteed the right to time for religious duties during the period of civilian service. However, the priority of a citizen's duties to the state was determined (Sect. III, Art. 20). It was declared the "basis of being" of its own citizens (Sect. III, Art. 16). The latter had to fulfil their main duty – "to be loyal to the state" (Sect. III, Art.17).

The religious structures recognised by the Republic of Lithuania (which were confirmed the status of a legal entity (Sect. IV, Art. 30)) were guaranteed the right to preach and worship.

Compared to previous constitutions, the property rights of religious organisations were not specified.

Clergymen of legal religious institutions were exempted from military service (Sect. IV, Art. 31) *(Lietuvos Konstitucija, 1938: 238)*.

In addition, the state secured the right of clergymen to record civil status acts of believers within communities (without the need for further confirmation in official secular institutions) (Sect. XVI, Art.125) *(Lietuvos Konstitucija, 1938: 243)*. As it was noted in the previous constitutions. The 1938 Constitution confirmed the right of church institutions and organisations to maintain charitable institutions (Sect. IX, Art. 60) *(Lietuvos Konstitucija, 1938: 240)* for health care and social support to citizens.

The educational initiative of religious structures was now localised in the creation of institutions for training clergy (Sect. IV, Art. 28 – 29) *(Lietuvos Konstitucija, 1938: 238)* and the maintenance of existing schools and educational institutions (Sect. VI, Art.39). At the same time, the state recognised "the educational significance of churches and other equivalent religious organisations" (Sect. VI, Art. 36). However, it reserved for itself the management of educational work and supervision of all educational institutions (Sect. VI, Art. 42). Religious subjects were to be taught in primary and secondary schools. However, the teaching of the doctrine of any of the recognised spiritual structures was not conducted in the case of a small number of students belonging to the respective religion. Another reason for the absence of religion lessons for pupils representing different confessions could be the inability of a particular religious formation to provide teachers of doctrine (Sect. VI, Art. 41) *(Lietuvos Konstitucija, 1938: 239)*.

In general, the position of religious structures was to be determined by separate agreements with them by the Lithuanian state, or established by law (Sect. IV, Art. 33) *(Lietuvos Konstitucija, 1938: 238)*. Freedom of conscience and religion, the only one of the rights of a citizen listed in the document, could not be restricted even in the case of a state of emergency and the use of actions to protect the state (Sect. XVIII, Art. 140) *(Lietuvos Konstitucija, 1938: 244)*.

The second "Smetona constitution" was in force for more than two years. In June 1940, Lithuania, like its Baltic neighbours Latvia and Estonia, was subjected to Soviet intervention. The Lithuanian state was occupied. A collaboration government was established, run by the invaders. In August 1940, the independent Republic of Lithuania was annexed by the USSR and incorporated into it as a union republic. The regulatory framework of sovereign Lithuania was terminated.

7. Conclusions

The restored Lithuanian state embarked on the path of constitutional construction from the first months after the proclamation of the historic Act of 16 February 1918. For quite a long time, the question of the future structure of Lithuania was a matter of debate. During the years of the liberation struggle, Lithuanian elites finally directed the country towards a republican form of government. The evolution of this segment of the perspective could be clearly traced from the drafts of the monarchical constitution, through the prism of the three provisional constitutions of 1918–1920, to the Constitution of 1922. The permanent fundamental law adopted at the final stage of the struggle for independence, among other things, closed the gap related to the status and rights of national communities and religious communities in the country. Lithuania has long been characterised by a rich palette of ethnic groups, ethno-confessional groups and religious communities on its territory. The issue of regulating their legal status in

the Republic of Lithuania in the modern era remained equally important. To a large extent, this task was fulfilled by the aforementioned Constitution of 1922.

The further course of historical events inexorably made adjustments to the problem under study. With the annexation of Klaipeda region (1923) and the signing of the Paris Convention, with the Memel Statute attached to it, Lithuania gained experience in regulating relations with an autonomous region within its borders. The specificity of the Klaipeda region was in its ethnic, linguistic, cultural and religious segments. During 1923–1939, the autonomous region was not only an important component of the economic power of the Republic of Lithuania, but also a source of unrest and separatism. This led to appropriate actions of the central Lithuanian authorities. The difficulty of reaching a consensus was further exacerbated by destructive influences, and in 1939, by the direct intervention of the German Nazi regime.

At the same time, the Lithuanian state embarked on the path of building an authoritarian model of government in 1926. The changes in the distribution of powers, as well as in the approaches to the country's domestic policy, were reflected in two constitutions adopted ten years apart (1928 and 1938). In general, while adhering to the text of the previous main normative documents of the Republic regarding the rights of religious communities, there was a decrease in loyalty to organised forms of national community unity. The latter statement is primarily true of the Constitution of 1938. The reasons for this, apart from the state's desire for unification and a single national ideological line, in our opinion, go back to the above-mentioned externally inspired dangers to the existence of an integral Lithuania. In practice, a few years before the adoption of the last interwar constitution, they resulted, among other things, in the preparation of an anti-Lithuanian putsch by the national socialist underground in the Klaipeda region. The defeat of the separatists ended in the high-profile trials of 1934–1935.

The last two years of independence (1938–1940) for Lithuania were marked by great turmoil. The country was forced to accept a number of ultimatums from its more powerful neighbours. The Klaipeda region was occupied and annexed by the Third Reich. Despite the restoration of Lithuanian control over Vilnius and the Vilnius region, in the autumn of 1939, the Republic itself faced a Soviet military invasion. The final chord of this invasion was Moscow's ultimatum and the occupation of the country in June 1940.

However, the statehood of the interwar Republic of Lithuania, as well as its constitutional tradition, did not disappear. They were restored and continued in the form of modern Lithuania, brought to life by the revolutionary events of 1989–1991.

The study of the history of state and law in the context of Lithuanian and Baltic studies in Ukraine is waiting for further steps. We consider this area to be one of the most promising among the array of scientific fields currently being explored by Ukrainian specialists in the history of state and law of foreign countries.

References

1. Eidintas, A., Lopata, R. (sud.)(1991). Lietuvos Valstybės Tarybos protokolai 1917-1918. Vilnius: Mokslas. 536 p.
2. Gaigalaitė, A., Skirius, J. (sud.)(1993). Lietuvos istorijos chrestomatija. 1861 – 1990-03-11. Kaunas: Šviesa. 374 p.
3. Gimžauskas, E. (sud.) (2006). Lietuva vokiečių okupacijoje Pirmojo pasaulinio karo metais, 1915 – 1918. Lietuvos nepriklausomos valstybės genezė. Dokumentų rinkinys. Vilnius: Lietuvos istorijos instituto leidykla. 595 p.

4. Jakubčionis, A. (2015). *Vasario 16 Aktas, Nepriklausomybės Aktas. Visuotinė lietuvių enciklopedija. T. XXIV. Psl. 720-721.*

5. Kierończyk, P. (2006). *Konstytucja kwietniowa i Konstytucja litewska z 1938 r. – próba porównania. Prawo konstytucyjne II Rzeczypospolitej. Nauka i instytucje. XLVII Ogólnopolski Zjazd Katedr i Zakładów Prawa Konstytucyjnego, Kraków, S. 240-251.*

6. Kierończyk, P. (2008). *System konstytucyjny państwa litewskiego (1922-1940). Gdańsk: Wydawnictwo GSW. 134 s.*

7. Laikinoji Lietuvos Valstybės Konstitucija. (1920). *Laikinosios Vyriausybės žinios. №. 37. Psl.1.*

8. League of Nations Treaty Series. (1924a). *№569. Vol. XXII. Pp.393-399.*

9. League of Nations Treaty Series. (1924b). *№736. Vol. XXIX. Pp.85-115.*

10. Lietuvos gyventojai: pirmojo 1923 m. rugsėjo 17 d. visuotinio gyventojų surašymo duomenys. (1923). *Kaunas: Lietuvos Respublikos Centrinis Statistikos Biuras. 380 p.*

11. Lietuvos Konstitucija. (1938). *Vyriausybės žinios. № 608. Psl.237-245.*

12. Lietuvos konstitucionalizmas: ištakos, raida ir dabartis. Red. Žalimas, D.(2018). *Vilnius: Lietuvos Respublikos Konstitucinis Teismas. 401 p.*

13. Lietuvos konstitucionalizmo istorija (istorinė Lietuvos konstitucija). 1387 m.-1566 m.-1791 m.-1918 m.-1990 m. Sud. Vaičaitis, V. A. (2016). *Vilnius : Vilniaus universiteto leidykla. 276 p.*

14. Lietuvos Valstybės Konstitucija. (1922). *Vyriausybės žinios. №. 100. Psl.1-8.*

15. Lietuvos Valstybės Konstitucija. (1928). *Vyriausybės žinios. № 275. Psl.1-6.*

16. Lietuvos Valstybės Laikinosios Konstitucijos Pamatiniai Dėsniai. (1918). *Lietuvos aidas, №130(178). Psl.3.*

17. Lietuvos Valstybės Laikinosios Konstitucijos Pamatiniai Dėsniai. (1919). *Laikinosios Vyriausybės žinios. №6 (pried.).*

18. Petryk, A. (2020). *Epokha velykykh nadii: narysy istorii mizhvoiennoi Lytvy (1918–1940) [The Age of Great Hopes: Essays on the History of Interwar Lithuania (1918–1940)]. Odesa-Ryha-Torun: Vydavnychyi dim "Helvetyka", Izdevnieciba "Baltija Publishing", Wydawnictwo Adam Marszalek. [In Ukrainian]. 382 p.*

19. Petryk, A. (2024). *Posada holovy derzhavy u konstytutsiiakh mizhvoiennoi Lytvy (1918-1940) [The Position of the Head of State in the Constitutions of Interwar Lithuania (1918-1940)]. Modernizatsiia natsionalnoi systemy publichnoho upravlinnia ta prava v konteksti yevropeiskoi intehratsii Ukrainy: materialy II Mizhnarodnoi naukovo-praktychnoi konferentsii (31 travnia 2024 r., m. Kherson-Kropyvnytskyi). Kherson – Kropyvnytskyi. Pp. 153-160. [In Ukrainian].*

THE ROLE OF AVIATION IN THE AIR DEFENSE OF GREAT BRITAIN DURING WORLD WAR I

Inna Pidbereznykh

Doctor of Legal Sciences, Assistant Professor,
Black Sea National Petro Mohyla University, Ukraine
e-mail: innaevgenievna2017@gmail.com, orcid.org/0000-0001-9906-4327

Viacheslav Nikolenko

Master Student, Black Sea National Petro Mohyla University, Ukraine
e-mail: slaventiy2308@gmail.com, orcid.org/0009-0004-1763-9465

Summary

The article is dedicated to analyzing the role of British aviation in the air defense of Great Britain during World War I. During this period, Britain faced a new threat – massive air raids by German military airships and bombers, which caused severe destruction and panic among the population. The lack of experience in countering aerial threats posed a significant challenge to British aviation units at the beginning of the war. The Royal Flying Corps (RFC) and the Royal Naval Air Service (RNAS) encountered numerous difficulties, including technical limitations and adverse weather conditions, which initially hindered their ability to effectively intercept and destroy enemy air targets.

The article examines how British aviation adapted its tactics and technologies to counter German air attacks, particularly through the development of early warning systems and night interceptions. It describes the improvement of British fighter aircraft, notably the B.E.2c model, and its adaptation for night operations against German bombers. Special attention is given to the formation of the Royal Air Force (RAF) in 1918, which significantly improved the management and coordination of the country's air defense.

The author analyzes the impact of these measures on reducing the effectiveness of German air raids and on the development of military aviation in the following years. The article also explores the successful operations of individual British pilots who managed to shoot down German Zeppelins and bombers, as well as the role of specialized squadrons in patrolling the night skies.

The article highlights the importance of the World War I experience for the future development of British military aviation and the organization of air defense in the 20th century. The work also sheds light on the cooperation between ground-based air defense forces and aviation, which played a key role in protecting strategic targets such as factories, ports, and infrastructure. A significant milestone was the organization of the London Air Defence Area, which integrated anti-aircraft guns, searchlights, and interceptor aircraft for better coordination. The author notes that through the implementation of new technologies, such as radio communication, British aviation achieved significant success in reducing civilian casualties and destroying enemy bombers.

Key words: Royal Flying Corps, Royal Naval Air Service, Royal Air Force, Zeppelins, German bombers, interception tactics, military innovations.

1. Introduction

During World War I, Great Britain faced a new threat – massive air raids by German Zeppelins and bombers, which caused significant destruction and panic among the population. In the absence of prior experience in combating aerial threats, British aviation, which was still in its early stages of development, was forced to rapidly adapt to the new conditions of war. The challenge lay in how to effectively organize air defense using available resources and technologies to reduce civilian casualties and protect the country's strategically important targets. Despite initial difficulties and technical limitations, British aviation had to find ways to counter German air attacks, ensuring the safety of the nation and its citizens. Studying this issue is relevant for understanding the development of military aviation and the organization of air defense during global conflicts.

The aim of the article is to study and analyze the role of British aviation in the air defense of Great Britain during World War I, specifically how the aviation units of the Royal Flying Corps (RFC), the Royal Naval Air Service (RNAS), and the Royal Air Force (RAF) adapted to the new challenges posed by German air raids. The article seeks to evaluate the effectiveness of the tactical and technical measures taken by British aviation to protect the country and to explore their impact on the further development of military aviation and the organization of air defense in the 20th century.

The article employs an interdisciplinary approach, combining historical and military analyses to examine the role of British aviation in air defense during World War I. The primary research method is historical-comparative analysis, which allows for comparing the development of British air forces at different stages of the war and in the context of military innovations. A content analysis of historical sources is also applied, including scientific works, memoirs, military documents, and contemporary studies on the topic. This approach provides an objective assessment of the effectiveness of British aviation and the technological and tactical solutions implemented.

The article is structured to sequentially highlight the evolution of British aviation during World War I. It first addresses the threats faced by Great Britain, including German air raids and their impact on the country's defense. Next, it analyzes the early stages of aviation development, including the challenges faced by the RFC and RNAS. Special attention is given to the role of the RAF, formed in 1918, and its contribution to air defense. The conclusion summarizes the development of British aviation and its impact on the future organization of air defense in the 20th century.

2. Examination of the Issue

After the end of World War I, various works gradually began to emerge, focusing on the role of military aviation in this global conflict. The role of British aviation in the context of the war, with particular emphasis on the innovations and strategies implemented to counter German air attacks, was analyzed by John Morrow *(Morrow, 1993)*.

Raymond Fredette, in his scholarly research, focused on the early large-scale air battles over Britain during World War I. He examines the raids of German Zeppelins and Gotha bombers on British cities in 1917–1918, highlighting how British aviation adapted to this new threat *(Fredette, 2006)*.

Ralph Barker's studies provide important insights into how British aviation evolved from the early days of the conflict to the end of the war, including its role in air defense. He

emphasizes the successes and failures of the RFC in combating German aircraft and Zeppelins, which constantly improved their tactics *(Barker, 2002)*.

Douglas Robinson, in his book, focused on the history of the German Naval Airship Division and its operations during World War I. Although the main focus of his work is on the German side, it contains important details about how British aviators countered the Zeppelins *(Robinson, 1980)*.

Raymond Rimell studied the air war over Great Britain during World War I, focusing on the interaction of British aviation with German bombers and Zeppelins, the development of night interceptors, and the first anti-aircraft guns, which became a significant achievement for the British military *(Rimell, 1987)*.

Lee Kennett explored the evolution of aerial warfare during World War I, highlighting the significant role of British aviation in air defense. Kennett focused on the psychological and tactical challenges faced by pilots and how British aviation gradually shifted from defense to active interception and neutralization of the enemy. His study provides a comprehensive context in which air defense developed, emphasizing the innovations and risks encountered by aviators *(Kennett, 1999)*.

Norman Franks examined air combat tactics during World War I, focusing on both the individual actions of aces and broader tactical approaches. Franks highlighted the actions of British pilots, who honed their skills and developed new strategies to combat enemy aircraft and Zeppelins throughout the war. Compared to other authors, Franks placed greater emphasis on the human factor and its role in shaping successful tactics, which helped British aviation advance in countering German threats *(Franks, 2015)*.

Peter Hart, in his works, concentrated on the events of April 1917, when British aviation suffered heavy losses during the Battle of Arras. Hart analyzed the causes of these losses and concluded that, despite temporary setbacks, British aviation learned important lessons that helped it improve its tactics and better prepare for the defense of the country. He emphasized that "Bloody April" became a turning point for the RFC, forcing the command to rethink its approaches to managing and coordinating air operations *(Hart, 2006)*.

Although Alex Imrie's book focuses on the history of German aviation, it contains important details about how British aviation countered German air attacks. Imrie used photographic material and documents to show the evolution of German aircraft and tactics, which were the primary targets for British pilots. A significant aspect of this study is its ability to contrast the actions of German and British forces *(Imrie, 1973)*.

Ian Castle provided a detailed examination of the threat posed by German Zeppelins to London in the early years of the war. Castle described the evolution of Britain's response to these threats, from early failures to the development of effective night interception tactics and the use of specialized aircraft. His work adds significant detail to the overall picture of air defense, showing how the Zeppelin threat influenced the development of aviation in Britain. Compared to other studies, Castle's book focuses on the urban dimension of the war and provides insight into how enemy raids changed the strategic thinking of British commanders *(Castle, 2008)*.

3. New Military Challenges

During the First World War, Great Britain faced a serious challenge: air raids carried out by German military airships known as "Zeppelins" and a new type of aircraft – bombers. These attacks caused widespread panic among the population, considerable destruction, and led to the development of new air defense tactics and strategies *(Baughen, 2014)*.

In the early years of the war, German Zeppelins were the primary means of air attacks on Britain. Initially, the British air force struggled to intercept and destroy these airships due to their high altitude and ability to maneuver swiftly. However, over time, British pilots began to successfully engage such targets. One of the first successful interceptions occurred on June 4, 1915, when pilot Reginald Warneford destroyed the Zeppelin LZ37, for which he was awarded the Victoria Cross *(Robinson, 1980)*.

As German Zeppelins became more vulnerable due to improvements in British air defense and the emergence of new types of fighter aircraft, Germany began deploying a new type of aircraft – heavy bombers to carry out raids on British cities. The bombings often took place at night, which led British aviators to develop the complex practice of night flights and interceptions. Fighters of the Royal Flying Corps (RFC), such as the B.E.2c, were adapted for night operations and began to more effectively counter German bombers.

A key development in British air defense was the creation of new early warning systems and coordinated interception strategies. This allowed for more efficient coordination between aviation and anti-aircraft batteries, reducing the effectiveness of German attacks.

The Royal Naval Air Service (RNAS) also played an important role in air defense. Their pilots often intercepted German Zeppelins and bombers approaching the British coast. Despite many unsuccessful interceptions attempts due to the technical limitations of the aircraft at the time, some missions, such as the successful attack on the Zeppelin LZ38, demonstrated the effectiveness of British aviators *(Robinson, 1980)*.

By 1917, the British air force had become more organized and efficient in combating German air threats. Special squadrons were established to patrol the night skies and intercept enemy aircraft. The growing number of aircraft participating in these missions, along with improvements in interception tactics and techniques, led to a significant reduction in the damage caused by German attacks.

Starting in 1917, British military leaders began implementing new tactical approaches that involved more coordinated use of fighter aircraft and anti-aircraft batteries. For example, after the appearance of German heavy bombers such as the Gotha, British aviation focused on conducting regular night interceptions, which became a key element in protecting London and other major British cities. On May 25, 1917, RNAS and RFC pilots successfully intercepted a group of German bombers in Belgian airspace. It was documented that Lieutenant Leslie effectively shot down a Gotha bomber at an altitude of 3,700 meters, causing it to catch fire and crash to the ground *(Parker, 2019)*.

One of the important steps was the creation of the so-called London Air Defence Area, which included new anti-aircraft guns, searchlights, and communication systems that improved the coordination between aviation and anti-aircraft forces. It was crucial to remain adaptive, as German raids became more organized and massive, requiring a corresponding response from the British (Home Air Defence).

4. Fundamental Decisions

The founding of the Royal Air Force (RAF) on April 1, 1918, was a response to the need for more effective management of air forces and coordination between different types of aviation. This organizational change allowed for the concentration of resources and attention, particularly on-air defense, which significantly enhanced the efficiency of British aviators. One key aspect was the improvement of the command-and-control system, enabling quicker responses to threats *(Cole, 1984)*.

After the establishment of the RAF, British pilots began using more modern aircraft, such as the Sopwith Camel, which greatly improved their combat capabilities in fighting against German bombers. Specifically, the increased altitude and maneuverability of these aircraft led to a higher interception rate of German planes and airships approaching British cities. On May 19, 1918, RAF aviation units successfully shot down six enemy bombers, with another forced to land due to sustained damage *(Hanson, 2008)*.

By the end of the war, British aviation had achieved significant success in defending the country from German raids. Night patrols and the use of specialized aircraft notably reduced civilian casualties and protected key state enterprises, factories, and industrial sites. However, despite these successes, British pilots faced numerous challenges, including technical malfunctions of aircraft, limited resources, and occasionally difficult weather conditions.

By the war's end, thanks to the efforts of the RAF, German air attacks had lost much of their effectiveness, significantly reducing their psychological and military impact. This was made possible through a comprehensive air defense system that included not only aviation but also ground forces and technical innovations such as radio communication and early acoustic radar systems (sound amplifiers).

Thus, British aviation played a crucial role in defending the country during World War I, constantly improving its methods and technologies, which allowed it to effectively counter German air threats and safeguard the British population.

5. Conclusions

During World War I, British aviation underwent a complex journey of formation and development, transforming from a nascent branch of the armed forces into one of the key elements of national defense.

At the beginning of the war, British aviation faced numerous challenges in countering a new threat – air attacks from Germany. The initial raids by German Zeppelins caused significant destruction and panic among the population, demanding an immediate response from the British military. The Royal Flying Corps and the Royal Naval Air Service were initially unprepared to effectively counter these threats, but gradually began to adapt, developing new tactics and improving their aircraft.

A key stage in the development of British air defense was the creation of a unified command structure – the Royal Air Force (RAF) in 1918. This allowed for more efficient use of resources and improved coordination between different units, which in turn significantly enhanced the effectiveness of aviation operations. With the establishment of the RAF, British pilots were equipped with more modern aircraft, as well as improved communication and control systems.

Despite the initial difficulties, British aviation gradually achieved significant success in defending the country from German air attacks. Successful interceptions of German Zeppelins and bombers became possible due to improved aerial combat tactics, particularly the development of night patrols and the increased accuracy of anti-aircraft gunfire. Both technical innovations and the experience of pilots, who quickly adapted to the new conditions of warfare, played an important role in these achievements.

Overall, British aviation made a significant contribution to ensuring effective air defense during World War I. Thanks to constant technological and intellectual progress, British military forces were able to significantly reduce the effectiveness of German air raids, protecting their cities and population from severe destruction and loss. This experience became an important

lesson for the future development of military aviation and laid the foundation for future successes in aerial confrontations of the 20th century.

References

1. Barker R. (2002). A Brief History of the Royal Flying Corps in World War One. London: Robinson Publishing, 560 p.

2. Baughen G. (2014). Blueprint for Victory: Britain's First World War Blitzkrieg Air Force. Oxford: Fonthill Media, 192 p.

3. Castle I. (2008). London 1914–17: The Zeppelin Menace. Oxford: Osprey Publishing, 96 p.

4. Cole E. (1984). F. The air defence of Britain: 1914 – 1918. London: The Bodley Head Ltd, 496 p.

5. Franks N. (2015). Dog Fight: Aerial Tactics of the Aces of the First World War. Barnsley: Frontline Books, 2015. 256 p.

6. Fredette R. H. (2006). The Sky on Fire: The First Battle of Britain, 1917-1918. Tuscaloosa: University Alabama Press, 306 p.

7. Hanson N. (2008). First Blitz: The Secret German Plan to Raze London to the Ground in 1918. London: Doubleday, 436 p.

8. Hart P. (2006). Bloody April: Slaughter in the Skies over Arras, 1917. London: Weidenfeld & Nicolson, 384 p.

9. Home Air Defence. URL: https://ww1aviationheritagetrust.co.uk/index.php/1914-1915-the-story/1917-1918-bombing/home-air-defence/

10. Imrie A. (1973). Pictorial history of the German Army Air Service, 1914-1918. Washington: Regnery Publishing, 176 p.

11. Kennett L. (1999). The First Air War: 1914-1918. New York: Free Press, 288 p.

12. Morrow J. H. (1993). The Great War In The Air: Military Aviation from 1909 to 1921. New York: Smithsonian Institution Press, 458 p.

13. Parker N. J. (2019). Gott Strafe England: The German Air Assault against Great Britain 1914–1918: Volume 2. Warwick: Helion and Company, 472 p.

14. Rimell R. L. (1987). Air War over Great Britain, 1914-1918. New York: Arms & Armour, 64 p.

15. Robinson D. H. (1980).The Zeppelin in Combat: A History of the German Naval Airship Division, 1912-1918. Seattle: Univ of Washington Pr, 433 p.

RELIGIOUS CENTERS OF HALICHINA: FROM SPIRITUAL CENTERS TO THE FORTS OF NATIONAL IDENTITY AND PSYCHOLOGICAL REHABILITATION

Nadiia Rusko

Ph.D., Assistant Professor, Ivano-Frankivsk National Technical
University of Oil and Gas, Ukraine
e-mail: nadiia.rusko@nung.edu.ua, orcid.org/0000-0002-8962-6004

Liubomyr Andrusiv

Ph.D., Assistant Professor, Ivano-Frankivsk National Technical
University of Oil and Gas, Ukraine
e-mail:alyubomyr50@gmail.com, orcid.org/0000-0002-4192-9452

Summary

Statement of the problem. Galicia, a historical and cultural region of Ukraine, has always been known for its rich religious life. Religious centers in this region acted not only as places of worship, but also as important centers of cultural, social and national life. This article examines the evolution of religious centers in Galicia, from their emergence as spiritual centers to the modern understanding of their role as rafts of national identity and places of psychological rehabilitation.

The relevance of the article is determined by the specifics of the influence of spiritual life on the formation of statehood and national identity. Over the last decade, there has been a strong outburst of scientific and public interest in the history of the Christianization of Ukraine, the church, religious traditions, and the Galician spiritual tradition needs the most research. The purpose of the article is to determine the role of the Galician Metropolis in the spiritual worldview, value orientations and how they reflect and transform the sacred space of the transcendent and influence people's lives. The novelty of the article is determined by the fact that, for the first time, the national peculiarities of the sacred heritage of Galicia, their influence on the value-moral and psychological potential and anthropological peculiarities of the formation of religious objectification of the Western region of Ukraine have been deeply investigated. Today, when Ukraine is facing new challenges of the religious, philosophical, political, and economic dimensions, it is very important to show the role of valuable, sacralized, transcendent factors in the formation of national sakrumy through the study of the problems of spiritual heritage. This article asserts that the worldview-mental core of the philosophy and esthetosphere of Ukrainian national culture is visualized in sacred places, which are the basis of spirituality and value identity of the region. It was found that they have not only an original, unique cultural content and form, but also their own spiritual territory, where they affirm and reveal the traditional values of the metaphysics of culture. Where a person correlates himself with fundamental spiritual values, the Absolute, with higher meanings, national shrines.

Key words: spirituality, Galicia, sacred places, religious identity, national identity, Ukrainian statehood, spiritual life, psychological rehabilitation.

1. Introduction

Statement of the problem. The religious life of Galicia was formed over the centuries under the influence of various cultures and civilizations. Catholicism, Greek Catholicism and Judaism had the greatest influence on the religious landscape of the region. Each of these religions left its mark in the architecture, art and culture of Galicia.

Catholicism: The Latin rite of Catholicism was widespread among the Polish and German nobility and burghers. Catholic churches, monasteries and palaces became important architectural monuments of the region.

Greek Catholicism: The Greek Catholic Church, which combined the Byzantine rite and Roman teachings, was the most widespread among the Ukrainian population of Galicia. Greek Catholic churches became centers of Ukrainian culture and national revival.

Judaism: The Jewish community of Galicia was one of the largest in Europe. Jewish synagogues, kheders and yeshivas played an important role in preserving Jewish identity.

One of the fundamental problems of modern religious studies and the history of philosophy is the knowledge of the sacred history of Galicia, the understanding of its spiritual experience, which for a long time determined cultural and civilizational progress, state-building and national identity.

During the 19th and 20th centuries, the religious centers of Galicia became important centers of national revival. Ukrainian Greek-Catholic churches have become a stronghold of Ukrainian culture and language. Priests were not only spiritual shepherds, but also educators who contributed to the development of Ukrainian education and literature.

Religious holidays have become important events in the life of the Ukrainian community, uniting people around common values and traditions. Churches became places where Ukrainians could express their national feelings and fight for their rights.

Analysis of research and publications. Philosophical and religious aspects were studied by: L. Filipovych, I. Ostashchuk, V. Lychkovakh, S. Tomashivskyi, S. Kyyak. However, the philosophical and psychological features of the religious centers of Galicia have hardly been studied.

The purpose of the study is to determine the role of Galician religious centers in the formation of the spiritual worldview, value orientations, in the spiritual life of the Carpathians and how they reflect and transform the sacred space of the transcendent.

2. Galician spiritual centers

Presentation of the main material. The active search for the preservation of one's identity prompts the individual to search for the spiritual core of one's identity, the sphere where one feels protected and when one's existence is filled with existence. Such a sphere is sacred heritage, where a person correlates himself with spiritual values, the Absolute, with higher meanings, national shrines, which are the sources of personal development.

In the modern world, religious centers increasingly perform the function of places of psychological rehabilitation. Prayer, meditation and communication with believers help people overcome stress, depression and other psychological problems. Churches and other religious organizations provide psychological support to people who have experienced traumatic events.

The ancient Galician land was rich in valuable spiritual orientations, and therefore sacred places were not only symbols of religiosity, but also centers of religious life. During its formation, the Christian church played the role not only of God's house, a place of prayer,

but also fulfilled the mission of the center of spiritual life, formed the worldview of the nation, affirmed the ethnic character of the nation, ideas, content and forms of works of spiritual and material culture of the people, was a center of art, literature, science The influence of religion on self-identification was embodied in the spirituality of the people, its worldview, moral and ethical development, socio-economic and political processes.

The ecclesiological plane of identity is an integral component of the entire Galician spiritual-national identity, because this identity is not so much a subject of the future as a matter of the present, which is based on the past. This is the past and the present, realized in the multifaceted tradition of the Church, which constitutes the heritage and creates the identity of the entire Ukrainian people, and also allows us to predict its future, based on the historical conceptuality and universal character of the more than a thousand-year-old Ukrainian church-historical process, which is characterized by an organic combination of universal and local levels of identity *(Documents of the Second Vatican Council, 1996: 108)*.

The national life of Galicians was also heavily influenced by various religious denominations, which played an important role in the processes of national awareness and preservation of their identity. The religious denominations of Eastern Galicia, as well as Transcarpathia, not limited to religious activities, took over a number of social functions. One of them was the educational activity of the GCC, which played an important role in preserving the national identity of the Ukrainians of the region. The GCC was the most influential among religious denominations and had an extensive parish network.

Metropolitan Andrey Sheptytskyi and the vast majority of the Greek-Catholic clergy believed that strengthening the authority of the Church required participation in the fight against influences hostile to the Church, thanks to such associations as «Prosvita», «Native School», «Union of Ukrainian Women», etc. As V. Pereveziy notes, supporters of this position were convinced that only in a united Ukrainian society, in which the Greek-Catholic clergy takes an active part in public life, influencing the rise of the cultural level of citizens, the education of children and young people, it is possible to provide leadership in ideological system of society, the Church can become a nationwide institution capable of resisting any destructive forces. The GCC attached great importance to the integration of spiritual and secular education, the education of young people based on Christian values and traditions, which formed the basis of the spiritual praxeology of the Galician Metropolis *(«Ukrainskyi Moisei». Mytropolyt Andrei Sheptytskyi ta ukrainskyi natsionalnyi rukh. http://www.sde.org.ua/zmi/zvoda/item/3079-ukrajinskyj-mojsej-mytropolyt-andrej-sheptyckyj-ta-ukrajinskyj-nacionalnyj-rukh.html)*.

3. About religious national identity

In his writings, S. Tomashivskyi devotes an important place to drawing parallels between national identity and the union of 1596. According to the scientist, it was the Greek Catholic Church that became the unifying element between the needs of society and the requirements of religion, which turned into a powerful driving force on the way to the self-assertion of the people as a nation.

S. Tomashivskyi sees the internal weakness of the Ukrainian people in the excessive politicization of society: without common political ideals, a high level of state development cannot be achieved.

In the Ukrainian community of Galicia, apart from the clergy, there was no other social force that could create a program of national and political development and lead this movement. Important in this context was the educational policy of the Habsburgs, which not only equalized

the rights of the Greek and Roman Catholic top clergy, but actually contributed to the formation of a new type of clergy who did not stand aside from social and political processes, but often led them. The activity of the «Russian Troika», whose participants clearly outlined the differences between Ukrainians and neighboring peoples, which in fact published the first national political program (the article by Ya. Holovatskyi «The position of the Rusyns in Galicia») is a confirmation of this vectorial nature of events.

S. Tomashivskyi, – for every reasonable Ukrainian, it does not matter – Orthodox or Greek-Catholic, on the contrary, both of them should wish in the interest of the Ukrainian national cause that through this Catholic branch, Ukrainian tribes, the entire national organism could benefit from the spiritual values of the West.» *(Tomashivskyi, 1916: 23).*

The Gospel in the context of the formation of the national idea can be called the activity of the Galician Metropolis. And this process of evangelization should not be purely mechanical, but should cover all spheres of human activity, in the center of which is a person – Metropolitan Sheptytskyi believed. Therefore, A. Sheptytsky naturally initiated an anthropological turn in Greek Catholicism, which corresponded to the spirit and mood of the 20th century, characterized by Christ-centeredness and evangelical principles. In the opinion of Professor S. Kiyak, the problem of Christocentricity of Ukrainian Catholicism has not been researched much. We can find out the theological content of the principle of Christ-centeredness by comparing its study with the person of Jesus Christ. As the divine and human natures are united in Christ, so should the nation and the church community be united in their being according to the principle of the exchange of properties. This principle of combining the specified institutions is the theological paradigm of the existence of the local church *(Kiyak, 2006: 203)*. It should be emphasized that the Byzantine tradition accepted the community of church existence, which was marked by the excessive influence of the state on internal church processes. The level of cooperation between the church and the state in Ukraine is characterized by a much higher degree of democracy, which is expressed in particular in the ethical influence of the church on the process of formation of religious and national identity.

Halych belongs to one of the oldest monasteries of the Christian religion in Ukraine. It is known from historical sources that the oldest Galician bishopric is Peremyske, which was founded in the first half of the 11th century. The next bishopric arose in Halych. And in 1235, Danylo Halytskyi formed the Kholm diocese.

4. Psychological rehabilitation and religious centers of Galicia

It can be assumed that the following factors contributed to the transformation of Halych into the spiritual center of the region:

1. Transfer to the disposal of the higher clergy of Kryloska Gora together with the remains of the fortification and princely buildings after Danylo Halytsky moved the capital of the principality to Kholm. The actual owners of Halych, the Zemstvo boyars, did not resist such a decision, as they did not want the city to lose its former glory, therefore they seriously resisted the return of the princes who fought against the boyar opposition. It was a kind of compromise, according to which neither the prince nor the Zemstvo boyars could claim the Galician lands.

2. The presence in Halych of a long-sanctified diocesan center with the largest religious building in this region – the Assumption Cathedral and the residence of bishops. It was impossible to build something similar in other cities during internecine princely wars and invasive attacks by foreign conquerors.

3. Preservation of church ownership of part of land holdings and income from settlements even after the colonization of Galicia.

All this contributed to the close interaction of the state and the church.

Religious centers of Galicia have played an important role in the life of the region for centuries. They were not only places of worship, but also centers of cultural, social and national life. Today, religious centers continue to perform important functions, helping people find spiritual support, preserve their identity and overcome life's difficulties.

5. Conclusions

For a certain time, Halych was considered the capital of the western Ukrainian lands. The peculiarity of this city was the creation of a seat of the Galician metropolis, which had a positive effect on the formation of the national consciousness of this part of the Ukrainian population. Among the oldest capital cities of the East Slavic world, the city of Halych occupies an honorable place. During the years of the devastation of the Ukrainian capital of Kyiv, Halych was a symbol of statehood and Christian spirituality, an active religious life flourished here, philosophical and theological treatises were born, and numerous shrines were built. Halych became a powerful religious center that played an important role in establishing the Christian moral foundations of the Eastern Church.

Sacred places abstract the deep spiritual axiology revealed in the Holy Scriptures. After all, through rites and spiritual psychological practices, there is an anthropological interaction with the Absolute, and in the mythological-religious plane lies the essential content of the national and identity formation of the Ukrainian people.

Modern psychology increasingly turns to religious resources. Many psychotherapeutic methods are based on religious ideas about a person, his place in the world and the meaning of life. Religious centers can become a place for conducting psychotherapy sessions, support groups and other activities aimed at restoring psychological health.

The religious centers of Galicia are not just historical monuments, but living organisms that continue to develop and change. Today, they are increasingly becoming centers of psychological rehabilitation, providing people with spiritual support and help in overcoming life's difficulties. This shows that religion remains a relevant phenomenon and plays an important role in the life of modern society.

References

1. Kyiak S. (2006) Identychnist ukrainskoho katolytsyzmu: henezys, problemy, perspektyvy [Identity of Ukrainian Catholicism: genesis, problems, prospects]. Ivano-Frankivsk. S. 278. [in Ukrainian]

3. Kyiak S. (2008) Dzherela ukrainskoi relihiinosti: dukhovno-kulturnyi aspekt [Sources of Ukrainian religiosity: spiritual and cultural aspect] // Etnos i kultura. № 4-5. S. 33-42. [in Ukrainian]

4. Kyiak S. (2009) Syntez dukhovno-relihiinoho i natsionalnoho v identyfikatsii ukrainskoho istorychnoho protsesu [Synthesis of spiritual, religious and national in the identification of the Ukrainian historical process] // Relihiia v konteksti sotsiokulturnykh transformatsii transformatsii Ukrainy. Kol. Monohrafiia // Ukrainske relihiieznavstvo. Kyiv. №50. S. 204-210. [in Ukrainian]

5. Tomashivskyi S. (1916) Tserkovnyi bik Ukrainskoi spravy [Church side of the Ukrainian cause]. Viden: Drukarnia Adolfa Holhavzena u Vidni, 24 s. [in Viden]

7. Tomashivskyi S.(1932) Istoriia Tserkvy na Ukraini [History of the Church in Ukraine]. Filadelfiia. 159 s. [in Filadelfiia]

9. Tomashivskyi S. (1929) Desiat lit ukrainskoho pytannia v Polshchi [Ten years of the Ukrainian question in Poland]. Lviv: «Instytut doslidiv natsionalnykh sprav» u Varshavi. 48 s. [in Ukrainian]

10. «Ukrainskyi Moisei». Mytropolyt Andrei Sheptytskyi ta ukrainskyi natsionalnyi rukh. [Elektronnyi resurs] Rezhym dostupu: http://www.sde.org.ua/zmi/zvoda/item/3079-ukrajin-skyj-mojsej-mytropolyt-andrej-sheptyckyj-ta-ukrajinskyj-nacionalnyj-rukh.html

11. Fylypovych L. (2009) «Ukrainski relihiini stereotypy ta yikh vplyv na protsesy kulturnoi identyfikatsii suchasnykh ukraintsiv: yevropeiskyi ta alternatyvnyi vektory: dopovid na Mizhn-arodnii filosofskii konferentsii «Ievropa: obiednavchi protsesy i khrystyianski tsinnosti» [«Ukrainian religious stereotypy and its influence on the cultural identity processes of such Ukrainians: European and alternative vectors: report on the International Philosophical Con-ference "Europe: mutual processes and Christian values»], Lviv, 27-28 liutoho 2009 r. [Elek-tronnyi resurs] Rezhym dostupu: http://www.risu.org.ua/ukr/study/ religstudy/article;27763/.

BUSINESS PROCESS MANAGEMENT: FORECASTING THE MARKET FOR DECARBONIZATION AND RELATED PRODUCTS USING THE LCA METHOD

Olexandr Shapurov

Doctor of Economics, Professor, Zaporizhzhia National University, Ukraine
e-mail: 0961779400saa@gmail.com, orcid.org/0000-0002-4381-4886

Summary

The aim of this work is to manage business processes based on the forecasting of the decarbonization market and related products. The methods used in this study include general scientific methods (analysis and synthesis, induction and deduction), theoretical research methods (abstraction, theoretical modeling. The importance of by-products in the metallurgical industry is demonstrated, including dust and sludge, hot rolling scale, iron ore, fine fractions of agglomerate, pitch, and sulfur. Based on the dynamic trend of retrospective data on steel production from the World Steel Association for the period 2003-2022, trends were analyzed and forecast indicators were developed. LCA inventory data (using OpenLCA software), calculated using the Environmental Footprint method (Mid-point indicator) considering a projected steel volume of 2,231 thousand tons, assessed environmental impacts. The results indicated the greatest impact on environmental indicators. The forecasted capacity of potential decarbonization markets and related products was determined. The most significant segments of the global steel market for by-products will be: sludge, tails, stockpiled

Key words: by-products, life cycle, Brown's model, circular economy, metallurgical production.

1. Introduction

Predictive business process management is essential for supply chain management, especially in the metal mining industry, which faces significant fluctuations in supply and demand. In this context, exponential smoothing methods have gained prominence due to their inherent simplicity and high accuracy. Time series methods are fundamental methods for forecasting any process and phenomenon. The purpose of this paper is to demonstrate the effectiveness of Brown's model in forecasting world steel production. By analyzing dynamic data and applying smoothing techniques, we can create forecasts that provide a clearer picture of production trends. In addition, this study incorporates life cycle assessment (LCA) to evaluate the environmental impacts of steel production processes. LCA provides a comprehensive framework for assessing the environmental impacts associated with the various stages of product production

2. Materials and methods

2.1 Brown's double smoothing model

Exponential smoothing methods are very popular in supply chain management *(Fliedner, 1999)* and business analytics *(Dekker, M. and etc, 2004)* due to their simplicity, transparency and accuracy *(Gardner, 1985)*. They are based on the assumption that observed

time series can be additively or multiplicatively decomposed into levels, trends and seasonal patterns. These models are widely used in various empirical applications to filter out random variations in observed series and to identify underlying trends and seasonal fluctuations. Apart from their long tradition, they are nowadays one of the most recommended tools for time series forecasting. Despite their advanced age, they have shown surprisingly good forecasting performance compared to more sophisticated approaches *(Makridakis & Hibon, 2000)*. Also, the literature on exponential smoothing has grown rapidly in the last few years *(Smyl, Liu and etc, Rendon-Sanchez & de Menezes)*.

In this article, it is shown that the exponential smoothing method may give more accurate steel market forecasting results compared to the state-of-the-art methods. This fills a gap in the existing literature on the use of exponential smoothing methods for the purpose of forecasting the dynamics of steel production dynamics of the steel product of the metallurgical industry.

Brown's model consists of the following equations:

Smoothing data

$$a_i = \alpha y_t + (1-\alpha)(a_{t-1} + b_{t-1}) \tag{1}$$

Smoothing the trend

$$b_t = \alpha(a_t - a_{t-1})(1-\alpha)b_{t-1} \tag{2}$$

Forecast for the period

$$t + k : y_{t+k} = a_t + b_t k \tag{3}$$

where a_t — smoothed value of the forecast indicator for the period t; b_t - trend increment estimation, showing the possible increase or decrease of values in one period; α – smoothing parameter $(0 \leq \alpha \leq 1)$. Parameter α can be determined by the following formula: $\alpha = \dfrac{2}{n-1}$; k – the number of time periods for which the forecast is made.

The smoothing parameter α is chosen subjectively or by minimising the forecast error. Larger values of the parameter will result in a faster response to changes. The larger the parameter, the more the data are smoothed.

In order to use the equations to obtain a forecast, it is necessary, to define the initial conditions. Firstly, the initial condition for smoothed data can be set equal to the first observation, with the initial condition for trend being zero. Second, the initial condition for the smoothed data may be defined as the average of the first k observations. Then the initial condition for the trend can be estimated by the slope of the line formed by these k points.

The main indicators of Brown's model, which characterise it: trend equation, forecast value of the volume of world steel production, forecast abbreviation, evaluation criterion of model adequacy (Student's criterion), lower and upper boundary of the forecast

2.2 Method of product life cycle assessment

Life Cycle Assessment (LCA) is based on the ISO 14040-14044 standards, which describes four steps in its development: purpose and scope definition, inventory analysis, impact assessment and interpretation (ISO. ISO 14044:2006. 2006). The life cycle includes stages such as raw material extraction, production, product components and the product itself, use and recycling or final disposal. It is important to note that it is not necessary to prepare an LCA with all life cycle stages; it can be adapted to the needs of the project. A life cycle inventory analysis is a compilation of all environmentally relevant inputs and outputs of a system that are derived or adapted from primary and secondary data. All inputs and outputs are quantified according to functional units. The impact assessment phase involves the use of characterisation models that include emission and resource use factors that are used to convert environmentally relevant input and output data into life cycle environmental impact indicator results. The use of LCA has proven to be very useful in the characterisation of steel product production by different methods (EAF, BOF).

LCA is a standardised methodology for quantifying and analysing the full life cycle of products, technologies, systems and services, which can provide decision support for identifying preferred options in terms of environmental impacts across a wide range of impact types. Thus, LCA modelling tools process and edit large amounts of process, material, and product data *(Makepa and etc, 2023)*.

There are a number of different LCA software: SimaPro software (Dutch company Pré-Consultants) Versions: SimaPro 7.3.3 and SimaPro 8.0.3; GaBi is an LCA modelling software from the German company Thinkstep; OpenLCA (openLCA is a free and open source software for sustainability and life cycle assessment) *(Sangma and etc, 2023)*.

The openLCA 2.0 software was used to conduct LCA in this study. This software is a comprehensive open source tool for sustainability modelling and LCA developed by GreenDelta. It allows modelling and analysing the life cycle of a product or service in a clear and methodical manner, adhering to the ISO 14040 series of recommendations. OpenLCA software also enables LCA studies using a database from its library *(Makepa and etc, 2023)*.

Worldsteel database was used in this study. This study contains global and regional LCI data for 16 steel products ranging from hot rolled coils to sheets, rebar, sections and coated steel.

The study was conducted in accordance with the worldsteel LCI methodological report and ISO 14040 and 14044 standards and represents the most comprehensive and accurate LCI dataset for steel products produced worldwide.

3. Results and Discussion

The durability of steel allows many products to be reused after the end of their service life (the second level of the circular economy), the extension of the product's service life allows to avoid the need for transportation and remelting of steel, as well as the creation of new products *(Belodedenko and etc, 2023)*. Over the last century, reprocessing of steel has saved 33 billion tons. of iron ore and 16 billion tons. coal *(World Steel, 2023)*. By-products (coke, converter, blast furnace) are used as energy for technological purposes *(Sui and etc, 2023)*, which can reduce the operating cost by 8-10% *(Arastoa and etc, 2013)*. Smelting steel scrap from products after the end of their service life is the third level of the circular economy in steelmaking. About 650 million tons of scrap is consumed annually for steel production, which makes it possible to avoid emissions of about 975 million tons. CO_2 per year and reduces the use of basic material resources *(World Steel. Blog, 2018)*. Steel industry by-products have many uses within the industry, in other industries and in society as a whole. The following is a general list of applications for steel

industry by-products: blast furnace slag as a clinker substitute in the cement industry *(Jiang and etc, 2020);* steelmaking slag as aggregates in road construction *(Jiang and etc, 2020; Sukmak and etc, 2023)* and soil improvement *(Fisher & Barron, 2022);* dust and sludge as internal and external applications for iron oxides and alloying elements *(Sui and etc, 2023)*; petrochemicals from coke production – tar, ammonia, phenol, sulphuric acid and naphthalene for the chemical industry; mill emulsions and waste oil – reducing agent in blast furnaces or used at coke plants.

A number of by-products with a high iron content are generated throughout the steelmaking process. These include dust and sludge from wet and dry decelerating equipment, mill scale from the hot strip mill, as well as iron ore and sinter fines. Tar is a by-product of coking and is used as a material for sealing materials in the construction sector, as well as for the production of paints and synthetic dyes. Tar can be further processed and used in consumer products such as soap and shampoo to treat dandruff and skin diseases (psoriasis) *(Ma and etc., 2021).* Sulphur is used to vulcanise rubber and produce sulphuric acid, and is also used in insecticides and fertilisers *(Ma and etc., 2014).*

Table 1

Co – products of the circular economy concept

Product	Process	Composition of substances
Cement (Sample S-NS-90)	Mechanical and hydration properties of low clinker cement containing high volume superfine blast furnace slag	OPC – 10%; SFBFS – 89%; NS – 1% OPC – ordinary portland cement OPC ($21.99\% - SiO_2$ 5.92% $- Al_2O_3$ 3.26% $- Al_2O_3$ 58.64% $- CaO$ 1.98% $- MgO$ 0.74% $- K_2O$ 0.27% $- Na_2O$ 2.6% $- SO_3$ 3.5% – LOI) SFBFS – substituting part of cement clinker with superfine blast furnace slag ($34.39\% - SiO_2$ 13.78% $- Al_2O_3$ 0.19% $- Al_2O_3$ 40.26% $- CaO$ 7.43% $- MgO$ 0.44% $- K_2O$ 0.3% $- Na_2O$ 1.92% $- SO_3$ 0% – LOI)
Electric arc furnace slag (EAF)	Electric arc furnace slag (EAF) as recycled road construction materials	$30.66\% - CaO$ 23.9% $- Fe_2O_3$ 21.61% $- SiO_2$ 10.14% $- MgO$ 5.10% $- Al_2O_3$ 4.39% $- MnO_2$ 1.55% $- Cr_2O_3$ 1.33% $- SO_3$ 0.77% $- ZnO$ 0.52% $- TiO_2$ 0.03% $- ZrO_2$
Functionalized and unfunctionalized basic oxygen steelmaking slag	Effect of functionalized and unfunctionalized basic oxygen steelmaking slag on the growth of cereal wheat (soil improvement)	Unfunctionalized BOS slag; Isosteric acid; Lauric acid; Lanolin; Cysteic acid
BFG	development prospects of metallurgical by-product gas utilization	25.0~30.0 $- CO_2$/%; 1.5~3.0 $- H_2$/%;55.0~60.0 $- CO_2$/%; 0.2~0.4 $- O_2$/%; 1.29~1.30 – density/(kg/m³); 3000~3800 – calorific value/(kJ/m³) The advantages are low cost and the possibility of widespread use as a gaseous fuel
LDG	development prospects of metallurgical by-product gas utilization	60.0~70.0 $- CO$/%; 0.0~3.0 $- H_2$/%; 0.0~1.0 $- CH_4$/%; 10.0~20.0 $- N_2$/%; 15.0~20.0 $- CO_2$/%; 0.0~2.0 $- O_2$/%; 1.69~1.76 – density/(kg/m³); 6800~10000 – calorific value/(kJ/m³) It can be directly used for fuel combustion, and as a raw material for the chemical production of high-value products

Continuation of table 1

COG	development prospects of metallurgical by-product gas utilization	$55.0{\sim}60.0 - H_2/\%$; $22.0{\sim}28.0 - CH_4/\%$; $6.5{\sim}10.0 - CO/\%$; $3.0{\sim}5.0 - N_2/\%$; $1.0{\sim}3.0 - CO_2/\%$; $0.3{\sim}0.8 - O_2/\%$; $2.0{\sim}3.0 - C_mH_n/\%$; $0.45{\sim}0.48$ – density/(kg/m³); $17,580{\sim}18420$ – caloric value/(kJ/m³) The development of COG for high-value production, such as that of <u>pure</u> hydrogen, methanol, ammonia, NG, and other <u>syngases</u>
High-temperature coal tar (HTCT)	High-temperature coal tar is an important raw material for obtaining value-added aromatics TP, the HP of HTCT, is the main raw material for carbon fibers (CFs), plastics, high-temperature <u>resistant materials,</u> and <u>electrode materials</u>	$0.5 \sim 1.0$ – benzene, toluene, xylene, and other alkylbenzene; $2 \sim 4$ – phenol, cresols, xylenols, naphthalene, and pyridine base; $9 \sim 12$ – naphthalene, phenol, cresols, xylenols, and heavy; $6 \sim 9$ – naphthalene, anthracene, and fluorene; $20 \sim 24$ – anthracene and phenanthrene; $50 \sim 55$ – CTP

Thus, the metallurgical sector has a well-founded concept of a closed cycle economy 3 R + co-P (reduce, reuse, recycle, co-products).

According to the statistics of the World Steel Association, in 2021, about 1.4 billion tons of steel were produced in the world's converters, based on about 1.3 billion tons. domain resources and about 240 million tons. scrap The world production of EAF was about 30% of the world steel production (560 million tons), which required 60 million tons. blast furnace production, 120 million tons DRI (direct recovery iron) and 450 million tons of scrap. The average limited results of the accompanying products, which are obtained during the production of 1000 kg of EAF steel: slag (85 kg); dust (10 kg); recovered steam (41.3 kg), converter gas (105 m3), renewable steam (41.3 kg).; 1000 kg of BF/BOF steel: slag (298 kg); dust (925 kg); blast furnace gas (1392 m3), energy (36.44 kW) *(Liu and etc., 2020)*. The average absolute growth in global steel production over the period 2003-2022 is 48.1 thousand tons, with an average annual increase of 3.5%. Thus, we can observe an analytically sound pattern of growth (Table 6), which can be used as input data for Brownian forecasting calculations *(He and etc., 2017)*.

Table 2

Global steel production in 2003-2022

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Actual production of steel, thousand tons	971	1063	1148	1250	1350	1345	1241	1435	1540	1563
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Actual production of steel, thousand tons	1635	1675	1624	1633	1737	1828	1877	1882	1962	1885

The relevance of the model is justified by the further dynamic development of the markets of decarbonization and related products *(El Hafdaoui and etc., 2023; Pavlenko and etc., 2020)*. The defined functional econometric model will be practically significant if in the future the total volume of sludge, slag, metal scrap and gases (converter and blast

furnace) will increase, and this depends primarily on the dynamics of the main product of metallurgical enterprises – steel. Based on the dynamic trend of retrospective steel production data of the World Steel Association for the period 2003-2022. consider the trends of a certain series. In the practice of statistical forecasting of trends, Brown's model is most often used, which belongs to adaptive forecasting models that are able to quickly adapt their structure and parameters to changing conditions. The forecasting tool in adaptive models, as well as in growth curves, is a mathematical model with a single factor "time" *(World Steel in Figures, 2022).*

In order to use the equations to obtain a forecast, it is necessary to define the initial conditions. First, the initial condition for the smoothed data can be set equal to the first observation, with the initial condition for the trend (bt-1) equal to zero. Second, the initial condition for the smoothed data can be defined as the average of the first k observations. Then the initial condition for the trend can be estimated by the slope of the line formed by these k points.

The parameter α can be determined by the following formula:

$$\alpha = \frac{2}{n+1} = \frac{2}{20+1} = 0,0952$$

As y_0 we take the arithmetic mean of the first 3 values of the series.

$$y_0 = (971 + 1063 + 1148)/3 = 1060,667$$

The slope angle of the line formed by the 3 points of the first realisation can be found using the least squares method.

The linear trend equation has the following form y = bt + a. The trend equation is obtained: y=88.5·t+883.667

The empirical trend coefficients a and b are only estimates of the theoretical coefficients βi, and the equation itself reflects only the general trend in the behaviour of the variables under consideration.

The trend coefficient b = 88.5 shows the average change in the resultant indicator (in units y) with the change in the time period t per unit of its measurement. In this example, with an increase in t by 1 unit, y will change by 88.5 on average.

The time dependence of y on time t has been studied. A linear trend was chosen at the specification stage. Its parameters were estimated by the method of least squares. The economic interpretation of the model parameters is possible – with each period of time t the value of Y increases on average by 88.5 units.

Initial conditions for trend estimation are equal to $b_{нач}$ = 88.5
a_1 = 0,0952*1060,667+(1-0,0952)*1060,667 = 1060,667
a_2 = 0,0952*1063+(1-0,0952)(1060,667+88,5) = 1140,964
b_2 = 0,0952(1140,964-1060,667)+(1-0,0952)*88,5 = 87,719
a_3 = 0,0952*1148+(1-0,0952)(1140,964+87,719) = 1221,002
b_3 = 0,0952(1221,002-1140,964)+(1-0,0952)*87,719 = 86,988
a_4 = 0,0952*1250+(1-0,0952)(1221,002+86,988) = 1302,469
b_4 = 0,0952(1302,469-1221,002)+(1-0,0952)*86,988 = 86,462

Table 3

Auxiliary table for calculating the forecast indicator according to the Brown's model

i	y_t	Data smoothing, a_t	Trend smoothing, b_t	Forecast, y_t^*	$(y_t - y_t^*{}^2)$
1	971	1060,667	88,5	1060,667	8040,111
2	1063	1140,964	87,719	1149,167	7424,694
3	1148	1221,002	86,988	1228,683	6509,693
4	1250	1302,469	86,462	1307,99	3362,784
…		…	…	…	…
19	1962	2145,869	59,296	2165,216	41296,548
20	1885	2174,686	56,394	2205,165	102505,81

Forecasting

$$y(20+1) = 2174.686 + 56.394 = 2231.08$$

The forecast error is determined by the formula:

$$s = \sqrt{\frac{\sum(y_t - y_t^2)}{n-2}} = \sqrt{\frac{808506,541}{20-2}} = 211,936$$

Let's determine the value of Student's criterion for the number of degrees of freedom k = n-m = 20-2 = 18 and level of significance 0.05: t(18;0.05) = 2.101
Lower forecast boundary:
y_1=2231.08-211.936 = 1785.802
Lower forecast boundary:
y_2=2231.08+211.936 = 2676.358

The LCA inventory data (OpenLCA software) calculated using the Environmental Footprint (Mid-point indicator) method (Table 4), taking into account the forecasted quantity of steel in the amount of 2231 thousand tonnes, determined the environmental impact. As a result, the greatest impact on environmental indicators was obtained: Aquatic eco-toxicity (-2.26281e+8 Item); Climate change (-1.22161e+8 kg), Land use (-2.19191e+8). The indicators are summarised in the table (the standard is taken as follows Steel cold rolled coil Global 2020 database World Steel Organization)

Table 4

LCA inventory data Steel cold rolled coil Global 2020 database (WSO)

Indicator	Steel cold rolled coil Global 2020	Unit
Abiotic resource depletion	-3.49350e+2	kg
Acidification	-5.54452e+4	mol
Aquatic eco-toxicity	-2.26281e+8	Item(s)
Aquatic Eutrophication	-6.83524e+4	kg

Continuation of table 4

Cancer human health effects	-1.73367e-12	Item(s)
Climate change	-1.22161e+8	kg
Ionizing radiation	-1.02574e+6	kBq
Land use	-2.19191e+8	Item(s)
Non-cancer human health effects	-3.05004e-1	Item(s)
other	-2.84398e+8	m3
Ozone depletion	-5.55552e-7	kg
Photochemical ozone creation	-2.31107e+5	kg
Respiratory inorganics	-2.82951e+0	Item(s)
Terrestrial Eutrophication	-2.42566e+5	mol

As a result of the assessment of the product life cycle of metallurgical enterprises (Table 5), the most significant segments of the global steel market will be: sludge (4,06E+04 kg); tails (5,81E+06 kg); exits put in storage (3,19E+08 kg); carbon dioxide (8,48E+02 kg).

Table 5

Segments of the ancillary services market were calculated using the product life cycle model

Outputs	Amount (1 kg) (Steel cold rolled coil Global 2020)	Segments of the global steel market	Units
Materials production			
carbonyl sulphide	3,78E-20	8,43E-11	kg
Gypsum	9,03E-17	2,01E-07	kg
Iron sulphate dissolution	1,21E-16	2,70E-07	kg
Water (desalinated; deionised)	4,04E-25	9,01E-16	kg
Waste			
Cold rolling emulsion treatment sludge	1,82E-05	4,06E+04	kg
Hazardous waste (deposited)	1,49E-08	3,33E+01	kg
Hazardous waste (underground deposit)	6,42E-17	1,43E-07	kg
High radioactive waste	6,03E-10	1,35E+00	kg
Low radioactive wastes	1,11E-08	2,47E+01	kg
Medium radioactive wastes	5,31E-09	1,18E+01	kg
Overburden (deposited)	0,002602	5,81E+06	kg
Paper (unspecified)	6,03E-21	1,35E-11	kg
Radioactive tailings	5,67E-07	1,26E+03	kg
Slag (deposited)	4,01E-12	8,95E-03	kg
Tailings (deposited)	0,247023	5,51E+08	kg
Waste (deposited)	0,142926	3,19E+08	kg
Emissions to lower stratosphere and upper troposphere			
carbon dioxide (fossil)	3,80E-07	8,48E+02	kg
Methyl borate	3,82E-23	8,52E-14	kg
Noble gases, radioactive, unspecified	3,15E-29	7,03E-20	kBq

Continuation of table 5

Emissions to urban air close to ground			
Benzal chloride	2,44E-27	5,44E-18	kg
Chlorosilane, trimethyl-	1,69E-24	3,77E-15	kg

Therefore, one of the solutions to this issue is to synthesize the proposed concept of a circular economy with the concepts of ELFM (Extraction of valuable materials from landfills) and EWM (Enhanced waste management). EWM consists of two pillars, the first of which is built on the idea that future landfills will become temporary storage sites or future mines for materials that cannot be directly processed using existing technologies or have clear potential for more efficient processing in the near future. The second pillar is essentially the ELFM concept itself. As for this second ELFM component, it aims to increase the value of waste streams in landfills. The trends of these concepts will affect local and regional budgets of cities, as a significant amount of landfill tax revenue will be lost due to the implementation of these concepts. Considering an average tax rate of 42 euros [68], the total amount paid to local budgets globally, only from the metallurgy industry, will exceed 36 million euros.

4. Conclusions

Using the forecast trend of global steel production based on the Brown's adaptive model and taking into account the output of products using the LCA method, the article determines the forecast capacity of potential markets for decarbonisation and related products. The most significant segments of the global steel market for by-products will be: sludge (4,06E+04 kg); tails (5,81E+06 kg); exits put in storage (3,19E+08 kg); carbon dioxide (8,48E+02 kg). As the further positive trend of global steel production will lead to the expansion of co-product segments and increased pressure on the environment (climate change, ecotoxicity of water resources, soil damage), which is proven in the study, this problem identification provides valuable information for local governments, helping to shape the vector of development of the industrial sector and possible prospects for transformation of some old industrial regions with a significant percentage of primary and secondary eco-industrial sector.

Product Life Cycle Assessment of the metal mining sector provides senior and middle-level decision makers with an understanding of how to balance the operating cycle, future financial performance and possible changes in environmental conditions. Understanding the quantitative composition of industrial end products enables the implementation of circular economy levels to avoid a significant tax burden on solid waste.

References

1. Fliedner, G. (1999). An investigation of aggregate variable time series forecast strategies with specific subaggregate time series statistical correlation. Computers & Operations Research, 26(10-11), 1133–1149. https://doi.org/10.1016/s0305-0548(99)00017-9
2. Dekker, M., van Donselaar, K., & Ouwehand, P. (2004). How to use aggregation and combined forecasting to improve seasonal demand forecasts. International Journal of Production Economics, 90(2), 151–167. https://doi.org/10.1016/j.ijpe.2004.02.004
3. Gardner, E. S. (1985). Exponential smoothing: The state of the art. Journal of Forecasting, 4(1), 1–28. https://doi.org/10.1002/for.3980040103

4. Makridakis, S., & Hibon, M. (2000). The M3-Competition: results, conclusions and implications. International Journal of Forecasting, 16(4), 451–476. https://doi.org/10.1016/s0169-2070(00)00057-1

5. Smyl, S. (2020). A hybrid method of exponential smoothing and recurrent neural networks for time series forecasting. International Journal of Forecasting, 36(1), 75–85. https://doi.org/10.1016/j.ijforecast.2019.03.017

6. Liu, M., Taylor, J. W., & Choo, W.-C. (2020). Further empirical evidence on the forecasting of volatility with smooth transition exponential smoothing. Economic Modelling, 93, 651–659. https://doi.org/10.1016/j.econmod.2020.02.021

7. Rendon-Sanchez, J. F., & de Menezes, L. M. (2019). Structural combination of seasonal exponential smoothing forecasts applied to load forecasting. European Journal of Operational Research, 275(3), 916–924. https://doi.org/10.1016/j.ejor.2018.12.013

8. ISO. ISO 14044:2006. Environmental Management—Life Cycle Assessment–Requirements And Guidelines ISO 14044. Int. Organ. Stand. 2006, Available online: https://www.iso.org/obp/ui/es/#iso:std:iso:14044:ed-1:v1:en

9. Makepa, D. C., Chihobo, C. H., Manhongo, T. T., & Musademba, D. (2023). Life-cycle assessment of microwave-assisted pyrolysis of pine sawdust as an emerging technology for biodiesel production. Results in Engineering, 101480. https://doi.org/10.1016/j.rineng.2023.101480

10. Sangma, C. B. K., & Chalie-u, R. (2023). Life cycle assessment of wastewater treatment by microalgae. У Valorization of Microalgal Biomass and Wastewater Treatment (c. 137–178). Elsevier. https://doi.org/10.1016/b978-0-323-91869-5.00008-9

11. S. Belodedenko, O. Hrechanyi, T. Vasilchenko, K. Baiul, A. Hrechana, Development of a methodology for mechanical testing of steel samples for predicting the durability of vehicle wheel rims, Results in Engineering, Volume 18, 2023, 101117, https://doi.org/10.1016/j.rineng.2023.101117

12. World Steel. Steel – the permanent material in the circular economy. Available at: https://worldsteel.org/wp-content/uploads/worldsteel-circular-economy.pdf (accessed Nov. 01, 2023).

13. Sui, P., Ren, B., Wang, J., Wang, G., Zuo, H., & Xue, Q. (2023). Current situation and development prospects of metallurgical by-product gas utilization in China's steel industry. International Journal of Hydrogen Energy. DOI: https://doi.org/10.1016/j.ijhydene.2023.04.050

14. Arastoa A., Tsuparia E., Kärkia J., Sihvonenb M., Liljab J. (2013) Costs and Potential of Carbon Capture and Storage at an Integrated Steel Mill, Energy Procedia, vol. 377. pp. 117-7124. DOI: https://doi.org/10.1016/j.egypro.2013.06.648.

15. World Steel. Blog: The future of global scrap availability. Available at: https://worldsteel.org/media-centre/blog/2018/future-of-global-scrap-availability/

16. Jiang, W., Li, X., Lv, Y., Jiang, D., Liu, Z., & He, C. (2020). Mechanical and hydration properties of low clinker cement containing high volume superfine blast furnace slag and nano silica. Construction and Building Materials, 238, 117683. https://doi.org/10.1016/j.conbuildmat.2019.117683

17. Sukmak, P., Sukmak, G., De Silva, P., Horpibulsuk, S., Kassawat, S., & Suddeepong, A. (2023). The potential of industrial waste: Electric arc furnace slag (EAF) as recycled road construction materials. Construction and Building Materials, 368, 130393. https://doi.org/10.1016/j.conbuildmat.2023.130393

18. Fisher L.V., Barron A. R. (2022) Effect of functionalized and unfunctionalized basic oxygen steelmaking slag on the growth of cereal wheat (Triticum aestivum). Resources, Conservation & Recycling Advances. Vol.15. https://doi.org/10.1016/j.rcradv.2022.200092.

19. Sui, P., Ren, B., Wang, J., Wang, G., Zuo, H., & Xue, Q. (2023). Current situation and development prospects of metallurgical by-product gas utilization in China's steel industry. International Journal of Hydrogen Energy. https://doi.org/10.1016/j.ijhydene.2023.04.050

20. Ma, Z.-H., Wei, X.-Y., Liu, G.-H., Liu, F.-J., & Zong, Z.-M. (2021). Value-added utilization of high-temperature coal tar: A review. Fuel, 292, 119954. https://doi.org/10.1016/j.fuel.2020.119954

21. Ma, S.-h., Wen, Z.-g., Chen, J.-n., & Wen, Z.-c. (2014). Mode of circular economy in China's iron and steel industry: a case study in Wu'an city. Journal of Cleaner Production, 64, 505–512. https://doi.org/10.1016/j.jclepro.2013.10.008

22. Liu, M., Taylor, J. W., & Choo, W.-C. (2020). Further empirical evidence on the forecasting of volatility with smooth transition exponential smoothing. Economic Modelling, 93, 651–659. https://doi.org/10.1016/j.econmod.2020.02.021

23. He, H., Guan, H., Zhu, X., & Lee, H. (2017). Assessment on the energy flow and carbon emissions of integrated steelmaking plants. Energy Reports, 3, 29–36. https://doi.org/10.1016/j.egyr.2017.01.001.

24. El Hafdaoui, H., Khallaayoun, A., & Ouazzani, K. (2023). Long-term low carbon strategy of Morocco: A review of future scenarios and energy measures. Results in Engineering, 101724. https://doi.org/10.1016/j.rineng.2023.101724

25. Pavlenko, D. V., Belokon', Y. O., & Tkach, D. V. (2020). Resource-Saving Technology of Manufacturing of Semifinished Products from Intermetallic γ-TiAl Alloys Intended for Aviation Engineering. Materials Science, 55(6), 908–914. https://doi.org/10.1007/s11003-020-00386-1

26. World Steel in Figures 2022. World Steel Association Available at: https://worldsteel.org/wp-content/uploads/World-Steel-in-Figures-2023-4.pdf (accessed Nov. 01, 2023)

RETHINKING THEORETICAL STUDIES OF SOCIAL AND HUMANITARIAN FUNDING MECHANISMS IN UKRAINE

Anatolii Shunda

Postgraduate Student at the Department of Law and Public Administration,
Zhytomyr Ivan Franko State University, Ukraine
e-mail: nayka2024@ukr.net, orcid.org/0009-0007-8947-1202

Summary

The study analyses the theoretical foundations of financial management mechanisms in the social and humanitarian sphere. The financing mechanisms for social and humanitarian efforts in Ukraine are reevaluated using the Kitchenham literature review model. The article reviews studies by scholars on social and humanitarian financing, using sources like Google Scholar, Web of Science, and Scopus. It focuses on Ukrainian researchers to pinpoint future research directions for financing mechanisms in Ukraine's post-war reconstruction. It is noted that many scientific and educational publications provide different definitions of financial mechanisms, financial governance and management in the social and humanitarian spheres.

These definitions are not contradictory, but demonstrate different views on the importance of different elements. The study suggests that a review of current research achievements and best practices can highlight key areas for further research on financial mechanisms in public administration of Ukraine's social and humanitarian sectors in the post-war reconstruction period.

It emphasizes the importance of focusing on social and human factors, improving public administration and developing concepts for improving the quality of public services.

Key words: management, finance, social sector, humanitarian sector, research.

1. Introduction

Ukrainian scholars have been studying the social and humanitarian sector for over 30 years. But there are still open questions about the mechanisms of financing the social and humanitarian sector in Ukraine.

Since gaining independence, Ukraine has focused on social and humanitarian development to improve lives and meet individual needs (*Gavkalova and Yeremka, 2023; Vovk, S., & Lobas, V, 2015 et all*). However, the shortcomings of social relations and financial management in Ukraine's humanitarian sector became most evident during the war *(Kravtsiv, V., 2023)*. This presents important research opportunities and the need for new methods to tackle issues related to modern changes and post-war reconstruction.

The international scientific community believes that a state's social and humanitarian aspects reflect its national progress and ability to innovate in public administration (*Nebrat, V., & Korniaka, O., 2022; Santis, S., Grossi, G., & Bisogno, M. ,2018; Jaspers, K., 2014; Pierson, C., 1998; Popper, K., Lorenz, K., & Kreuzer, F., 1992 et all*).

A review of the current scientific literature shows that terminology and concepts in public administration related to social and humanitarian services are often unclear. To better understand this topic, we need to redefine key theoretical categories and deepen our knowledge of

it. A review of the current scientific literature shows that terminology and concepts in public administration related to social and humanitarian services are often unclear. To better understand this topic, we need to redefine key theoretical categories and deepen our knowledge of it.

2. The purpose and objectives of the article

The study aimed to review and analyze scientific sources, both domestic and foreign, about the financial mechanisms in public administration within the social and humanitarian sectors. The research on the financial mechanisms in public administration for the social and humanitarian sectors utilized various analytical approaches, including general, functional, procedural, and both subject-object and object-subject perspectives. The review of current scientific achievements and best practices will help identify key areas for further research on developing a financial mechanism for public administration in Ukraine's social and humanitarian sectors during post-war recovery.

3. Research findings

We have analysed the work of scholars studying social and humanitarian finance mechanisms using open sources such as Google Scholar, Web of Science and Scopus, focusing on Ukrainian researchers, to identify future directions for research on social and humanitarian finance mechanisms for post-war reconstruction in Ukraine.

Kitchenham's (2004) model for analyzing literature reviews formed the basis of identifying research sources. We developed specific search terms and criteria for including and excluding studies, then selected and summarized the relevant research data. Key concepts for the search were identified, and a conceptual approach was developed to facilitate the literature review.

We focused on the key terms 'financial mechanism' and 'social and humanitarian sphere' in the titles and abstracts of the studies. These inclusion and exclusion criteria were established to increase the overall reliability of the review. Also, peer-reviewed English-language articles with empirical data on financial mechanisms in the social and humanitarian sectors were included. The following articles were not included in the analysis.

The analysis of the main content of each article helped to summarize the material and compare the documents. The method identified common themes in scientific papers, enabling us to reevaluate theoretical studies on financing in Ukraine's social and humanities sectors, draw conclusions, and highlight areas for future research.

Many academic and training publications provide different definitions of financial mechanisms, financial governance and management in the social and humanitarian sectors. These definitions are not mutually exclusive views; rather, they demonstrate the different opinions that can be expressed on the importance of individual elements.

Key principles of public financial management evolution in Ukraine's social and humanitarian sectors, from independence to now, have been discussed in works by Khoma, N. (2022), Kornivska, V. (2022), Khomutenko, A. (2017), and others. The opportunity to study financial mechanisms in Ukraine's social and humanitarian sector has enabled a long period of searching for optimization strategies that reflect the changing administrative and political landscape in Ukraine.

The unclear division of responsibilities between public authorities in the area of social and humanitarian financing, combined with a complex system of information

transfer for decision-making, has become a major challenge to progress in Ukraine *(Borodin & Tarasenko, 2015; Belashova, 2014)*.

An analysis of Ukraine's financial public administration in the social and humanitarian sector shows that its evolution has been largely shaped by the uneven distribution of social and economic resources across different regions *(Tkachova, 2013; Pylypyshyn, 2011; Radchenko, 2009)*. This has important implications for the future productivity, reliability, and security of Ukrainian citizens.

As the conflict in Ukraine persists, the financial management of socio-humanitarian organizations is becoming increasingly complex. Consequently, there is a growing interest in analyzing existing financial mechanisms and identifying new forms of their utilization. There is a lack of a thorough review of literature and theories that analyze recent studies on financial mechanisms for managing the socio-humanitarian sector in Ukraine.

The works of domestic scholars on the management and organization of the social and humanitarian sector are mostly focused on the study of the general approach of financial management mechanisms that correspond to the general principles of public administration *(Kurnosenko, L., 2022; Kravchuk, N., 2017; Gladun Z., 2012 et al.*). By integrating objective and individual elements of financial management mechanisms, through the organization of economic, humanitarian and social aspects, they prove that their focus on meeting the interests of the country's human and social society must necessarily include economic, organizational, political, legal and motivational strategies.

The works of K. R. Popper (1992), K. Jasper (2014), and other philosophers study management as a reflection of society's self-managing qualities, integrating the dialectical laws of nature, society, and thought. This lays the groundwork for enhancing scientific knowledge and operational capabilities. A thesis focused on improving management processes within the social and humanitarian sectors.

The best way to study how the mechanisms of public administration and funding mechanisms of the social and humanitarian sphere work is to use the subject-object and object-subject approaches. They involve targeted interaction between an object and a subject or the organization of the social and humanitarian sector by changing its internal environment.

Most studies agree that Ukraine's social and humanitarian sector operates within a single financial system with interconnected, similar elements *(Kravtsiv, V, 2023; Gavkalova, N., & Yeremka, D., 2023; Khoma, N., 2022 et al.*) The financial sector and its management are crucial to the socio-economic landscape of a country, involving many complex processes and systems. The effectiveness of the socio-economic system and the development of society depend on the creation of this fundamental structure.

The next approach in the study focuses on the practical significance of financial management of the socio-humanitarian sector and mechanisms of public financial management. As part of this approach, we have also considered the works of N. Tomac, R. Tomac, Radonya and Bonato (2019), F. Taylor (1914), S. Emerson, C. Van Ness, G. Streeter, L. Sundstrom, P. Emerson and J. Emerson et al. (2022) and others. They argue that general management and financial management are important integrating functions of funding in the social and humanitarian sectors.

4. Conclusions and prospects for further research

The state's financial policy is broader and is not limited to providing financial assistance to those in need. It involves creating a favorable environment for entrepreneurship and

employment for all able-bodied citizens. This involves deregulating businesses, supporting small enterprises, ensuring high employment, managing labor relations, and providing social protection through social security, insurance, and minimum wages.

Scientific research on Ukraine's financial governance should follow a systematic approach, covering the object, subject, organizational structure, functional mechanisms, and resource base needed for these components. A thorough study of the balance of social and human factors, as well as the effectiveness of public administration and policy, the creation of scientific concepts and their practical implementation in the social and humanitarian spheres, also affect timely and high-quality decision-making on the distribution and use of state budget funds.

References

1. Gavkalova, N., & Yeremka, D. (2023). 'The role of civil society institutions in the processes of democratisation of the public administration sphere.' Actual issues in modern science, (1 (7))
2. Gladun Z.S. State health policy in Ukraine (administrative and legal problems of formation and implementation): Monograph. Ternopil: Ekonomichna Dumka, 2012. 460 c.
3. Jaspers, K. (2014). The Origin and Goal of History (Routledge Revivals). Routledge.
4. Khoma, N. M. (2022). Co-financing in the system of peacebuilding technologies: on the example of assistance to Ukraine during the Russian military aggression. Politikus, 3, pp. 52-58.
5. Khomutenko, A. V. (2017). Pragmatics and semantics of the terms of financial science 'public finance', 'public finance' and 'state finance'. Finance of Ukraine, (1), 111-126.
6. Kitchenham, B. (2004). Procedures for performing systematic reviews. Keele University Technical Report, UK, TR/SE-0401, 1–26
7. Kornivska, V. O. (2022). The Ukrainian military crisis as part of a deep global transformation process: financial mechanisms of stabilisation and recovery. Problemy Ekonomiky, (2), 22-31
8. Kravchuk, N. Ya. (2017). Financial system of the state: theoretical conceptualisation and structuring problems. The world of finance, (3 (8)), 80-94.
9. Kravtsiv, V. S. (2023). State Institution 'M.I. Dolishnyi Institute for Regional Studies of the National Academy of Sciences of Ukraine' in 2017-2022: main results of activity, prospects for development. Regional economy, (2), 5-20.
10. Kurnosenko, L. (2022). Problems and peculiarities of international financial support for Ukraine in times of war. Public administration and regional development, (15), 255-274.
11. Nebrat, V., & Korniaka, O. (2022). Peculiarities of capital formation and investment mechanisms in Ukraine as a factor of financial risks in the conditions of war and the post-war period. Grail of science, (16), 31-34.
12. Pierson, C. (1998). Bob Deacon with Michelle Hulse and Paul Stubbs, Global Social Policy, London, Sage, 1997, 252 pp.,£ 14.99 paper. Journal of Social Policy, 27(3), 421-445.
13. Popper, K., Lorenz, K., & Kreuzer, F. (1992). El porvenir está abierto: conversación de Altenberg y textos del simposio sobre Popper celebrado en Viena. In El porvenir está abierto: conversación de Altenberg y textos del simposio sobre Popper celebrado en Viena (pp. 201-p).
14. Pylypyshyn, V. P. (2011). The concept and main features of public administration. Legal science and practice, (2), 10-14.
15. Radchenko, O. V. (2009). The category of 'mechanism' in the system of public administration. State and Regions, 2009(3), 64-69.

16. Santis, S., Grossi, G., & Bisogno, M. (2018). Public sector consolidated financial statements: a structured literature review. Journal of Public Budgeting, Accounting & Financial Management, 30(2), 230-251.

17. Taylor, F. W. (1914). Scientific management: reply from Mr. FW Taylor. The Sociological Review, 7(3), 266-269.

18. Tkachova, O. (2013). Efficiency of public administration: concepts and approaches to evaluation. Bulletin of the National Academy for Public Administration under the President of Ukraine, (2), 30-37.

19. Vovk, S. M., & Lobas, V. M. (2015). Organisation of a modern mechanism of healthcare financing in the conditions of the country's transformation period. Economics and law of health care, (2), 8-12.

THE EFFECTIVENESS OF CREATIVITY TECHNIQUES AS KEY FACTORS IN INNOVATION DEVELOPMENT

Yurii Stasovskyi

Ph.D., Kyiv National Economic University named after Vadym Hetman, Ukraine
e-mail: ystasovskiy@gmail.com, orcid.org/0009-0006-5170-1140

Summary

The article examines both the theoretical foundations and practical aspects of organizational creativity in the context of the modern knowledge economy. The author pays attention to different approaches to studying creativity, analyzing the most influential models and theories applied in an organizational context. This has enabled the creation of a systematic classification of factors that determine the effectiveness of employees' creative activities in modern companies. In particular, both internal and external influences, as well as their interaction within the organization, are considered. The article pays special attention to the study of mixed factors, which combine internal resources and external opportunities to stimulate innovative thinking. The author emphasizes that knowledge and experience in using creativity techniques play a central role in the process of generating new ideas productively and transforming them into real innovations. The proposed classification of factors enables organizations not only to identify the factors they can influence but also to develop adaptive strategies to respond to external challenges beyond their control. This article contains a thorough study of the evolutionary development of creativity techniques.

Key words: innovation, innovation management, organizational creativity, creativity techniques, innovative culture.

1. Introduction

In today's world, the activities of leading organizations demonstrate the critically important role of creativity as a component of innovation, competitiveness, successful development, solving local issues and global challenges. This explains why government institutions, business, and scientific organizations have actively begun to explore the topic of creativity in innovation. Creativity is becoming a key skill that helps organizations adapt in today's dynamic environment. As early as the beginning of the 21st century, Richard Florida argued that creativity has become the main driver of economic growth (*Florida, R. L. 2002, 2012*). According to the of the study (which surveyed 11.3 million employees from 803 organizations from around the world, for the period November 2022 – February 2023), more then 70% of companies believe that creative thinking will become even more in demand between 2023 and 2027 (*Statista*). According to Deloitte's "2023 Global Marketing Trends" study (which surveyed 1,015 executives), among companies with annual revenue growth of 10% or more, about 90% of executives answered "agree" and "strongly agree" » to the statement that their companies promote creative ideas, support risk-taking and creative collaboration (*Deloitte).* So, understanding the importance of creativity for companies, the question arises as to how a company can influence the effectiveness of solving creative tasks.

2. Evolution of creativity techniques in the scientific community

Since the middle of the last century, when the active phase of creativity research began, it became obvious that this is a complex and multifaceted phenomenon. It depends on the interaction of many factors, both individual (cognitive processes, emotional state, motivation) and contextual (social environment, cultural norms, technological development). This complexity makes it difficult to unambiguously define and measure creativity, as well as to develop universal strategies for its stimulation. Today, there are many approaches to the study of creativity, each of which offers its own vision of this complex phenomenon. For a more complete understanding of what factors influence creativity in organizations, it is necessary to consider several theories that allow us to understand different aspects of this process. R. Rhodes proposed the 4P model, which became one of the most common approaches to understanding creativity as a multifaceted phenomenon. This model allows you to perceive creativity not just as an abstract phenomenon, but as the result of the interaction of four main components: Person, Process, Product and Press. Each of these elements plays an important role in shaping creative solutions and innovations.

– A person is an individual or a team that generates new ideas. Their skills, abilities, motivation and previous experience are essential for innovation.

– Process refers to the methods and approaches by which these ideas are formed, developed and implemented.

– Product is the result of a creative process, something that was created or developed as a result of this process.

– Press (Influence) refers to external conditions and environments that stimulate or, on the contrary, limit creativity — these can be social, organizational, or economic factors.

By analyzing these four components, organizations can develop effective strategies to increase creativity in innovation. Thanks to this approach, it is possible to better understand what factors influence creativity at different levels, and create conditions for the development of innovative solutions (*Rhodes, M. 1961)* Teresa Amabile proposes to consider creativity in organizations as a complex phenomenon determined by the interaction of four key components: skills in the subject area; processes that promote creativity; internal motivation; social environment. According to Amabile, creativity is not an isolated personality trait, but the result of the interaction of these four components. Each of them plays an important role in the process of generating and implementing innovative ideas (*Amabile, T. M. 2012)*. Taking into account that the main goal of creativity in organizations is the implementation of innovations, Teresa Amabile offers The dynamic componential model of creativity and innovation in organizations, in which she supplements the previous theory with several essential details, including: recognizes the significant influence of extrinsic motivation, includes such factors as work orientation, meaningful work, progress in meaningful work, affect affecting individual components, introduces external factors affecting the work environment (social influence, economic influence, cultural influence) (*Amabile, T. M., & Pratt, M. G. 2016)*.

Thus, in comparison with the author's previous model, The dynamic componential model of creativity and innovation in organizations becomes more detailed, iterative and shows dynamism, the dependence of the effectiveness of the implementation of innovations on an even greater number of factors. Robert Drazin considers creativity in organizations through the prism of sensemaking, and proposes a multi-level model of creativity, which consists of four interrelated concepts: individual sensemaking; intersubjectively shared frames of reference; a collective structure that represents a negotiated belief structure between parties that have different

frames of reference; shift in the negotiated belief structure that results from crises. Unlike most studies that examine creativity in organizations in the context of individuals or small groups, Drazin examined creativity in organizations as a process in the context of large-scale projects that last for a long time and involve several interdependent teams. Thus, the authors of the model introduce such a factor as subcultures within the organization, which compete for influence on decision-making. Belonging to one or another subculture also affects the individual's behavior in different ways. The study of creativity as a long-term process, during which many factors change, emphasizes the dynamism of the model over time (*Drazin, R., Glynn, M., & Kazanjian, R. 1999*)

Firdaus E. Udwadia in the proposed a Multiple Perspective Model considers creativity in the organization as a process that occurs in the working environment under mutual influence: The individual, who is the central component of the model, the effectiveness of the individual is examined through intelligence, knowledge or expertise, and thinking style; technical support, which consists of human, physical, information and communications resources; organizational support, namely the provision of conditions for creative activity, through such aspects as Freedom, Openness, Flexibility, Encouragement, Challenge Recognition, good project management, cooperation, collaboration, sufficient time (*Udwadia, F. E.,1990).*

Michael A. West offers an integrative model of creativity and innovation in work groups, in which he identifies four main factors that influence innovation in groups: task characteristics; diversity of group knowledge and skills; external demands and threats; integrative group processes. Michael A. West emphasizes that external demands and threats, such as the expectations of customers, management, regulatory and legal obligations, competition, economic difficulties, uncertainty, political or economic changes, limit people's ability to think creatively and offer non-standard solutions. Group integration is also important, which, thanks to components such as clarity and commonality of goals, participation in decision-making, conflict management, psychological safety, creation of an environment to support innovation, ensures effective cooperation between members of the work group, allowing the use of their diverse knowledge, skills and experience to achieve a common goal *(West, M. A., 2002).*

Based on a significant number of various studies, proposed models and theories, it can be concluded that creativity in innovation is a complex and multifaceted phenomenon that continues to be actively researched due to the growing need of business for innovative solutions. In today's conditions of global competition and rapid changes, organizations increasingly turn to creativity as a critical resource to ensure sustainable development and adapt to new challenges.

3. Modern approaches to the formation of creativity in innovations

In modern organizations, the development of a new product involves a high degree of creativity in a controlled and managed process. Thus, creativity is aimed at creating a practical and feasible solution to a task that meets or exceeds the set goals *(Ambrose, G., & Harris, P., 2003)*. 11 To enhance non-spontaneous creativity, you can use creative techniques, tools that facilitate the creative process and can be used to develop creativity, as they involve planning and designing situations for solving tasks *(Mansfield, R. S., Busse, T. V., & Krepelka, E. J., 1978)*. 12 As early as the 60s of the last century, R. Rhodes claimed that the techniques of obtaining ideas can be learned and can be taught *(Rhodes, M., 1961)* Torrance believed that creativity is a skill that can be developed if stimulated and practiced *(Torrance, E. P., 1977)*. Thus, the next step to increase the effectiveness of creativity in organizations is the use of

scientifically based creativity techniques. These methods are aimed at systematizing and stimulating the creative thinking of individuals, helping to expand the boundaries of usual solutions and find new approaches to solving problems, (*Zusman, A. 1998*). They not only improve individual cognitive processes, but also create structured conditions for the collective generation of ideas, promoting innovation. The use of such techniques is becoming an important tool for organizations seeking to innovate more efficiently and systematically. Therefore, it is the knowledge and successful experience of using creativity techniques that is the critical element that must be added to the factors affecting the effectiveness of organizational creativity in the development of innovations. This factor is also highlighted by: W. Gordon, who is the author of the creativity technique Synectics *(Gordon, W. J. J., 1961)*, A. Osborn, who is the author of the creativity technique Brainstorming *(Osborn, A. F., 1963)*, Edward De Bono as lateral thinking *(De Bono, E., 1993)*, T. Amabile as skills in generating ideas *(Amabile, T. M., 2012)*.

As an example of the successful application of creativity techniques, we can cite the Samsung company, which in the early 2000s began to implement a systematic approach to innovation. In particular, the company started using the Theory of Inventive Problem Solving (TRIZ). Already on the initial projects, Samsung achieved the first results thanks to TRIZ. In 2003, this approach allowed the company to patent 50 inventions, and in 2004, one of the projects, an innovative DVD selection solution, helped save more than $100 million. Today, knowledge of TRIZ is a mandatory condition for career growth at Samsung. *(Cheong, S. H., Lenyashin, V. A., & Kynin, A. T., 2008)*. In 2022, Samsung registered 6,300 patents in the United States, and ranks 7th in the Most Innovative Companies 2023 ranking by the Boston Consulting Group *(BCG, 2023)*.

As another example of the successful application of creativity techniques, we can cite Google, which actively implements the Design Thinking method to stimulate innovation. This approach involves a deep understanding of user needs and focuses on empathy, rapid ideation, prototyping and testing. One of Google's tools is the so-called Design Sprints — five-day sessions during which the team generates ideas, develops prototypes and tests them on real users. This allows the company to quickly solve complex problems and implement innovations taking into account feedback from users at every stage. Google entered the top 10 most innovative companies in the world, ranking 8th in the Most Innovative Companies 2023 ranking by the Boston Consulting Group *(BCG, 2023)* Using design thinking and cultivating a creative environment allows the company to remain a leader in developing new technological solutions and improving user experience. *(Smart, M., 2024, Schoes, L., 2021)*. Thus, it can be concluded that in modern conditions, the professional competence of employees alone is not enough to ensure high innovative activity of organizations. It is critically important to master creativity techniques that allow you to systematize the process of generating new ideas and finding original solutions in difficult situations. The use of such methods as Design thinking, TRIZ, and other scientifically based approaches helps to accelerate innovative development and increase the competitiveness of companies on the global market.

On the example of Samsung and Google, we can see the effectiveness of such approaches, which is confirmed by their high patent activity and stable positions in the rankings of the most innovative companies in the world. The use of creativity techniques allows not only to find new solutions, but also to structure the processes of innovative activity, making them more systematic and effective. Thus, the integration of creativity techniques in the development strategy of organizations becomes a key element of their success in the global market. Thus, the first conclusion of this study is that knowledge and experience in using creativity techniques is an independent factor that directly affects the effectiveness of organizational innovations.

The systematic use of these methods not only improves the quality of idea generation, but also optimizes the process of finding non-standard solutions, which, in turn, strengthens the competitiveness of the organization in the conditions of the modern knowledge economy.

It is the use of creativity techniques that allows to systematize the generation of ideas, to transform creative chaos into a controlled process. It is true that individuals occasionally have flash ideas, but this is an unpredictable outcome that can be compared to playing the lottery and should not be counted on. Organizations need to have their own "idea factories" that systematically produce quality products. Therefore, from the point of view of organizational creativity, the term creativity is proposed to be understood as the systematic production of original, valuable ideas, with the help of creativity techniques, aimed at achieving the goals of the organization.

4. Classification of factors of creativity in innovations

Considering the variety of existing theories and models of organizational creativity, there is an urgent need to develop a systematic classification of factors affecting the productivity of creative activity of individuals in the organization. As noted in my dissertation, such a classification will reveal not only internal and external factors that determine the level of creativity, but also assess the possibilities of organizational influence on them *(Stasovskyi, Y., 2024)*. This, in turn, will enable organizations to develop effective strategies for stimulating creative activity in order to increase the efficiency of innovative processes and the competitiveness of organizations in a modern, dynamic environment. A new classification of factors of creativity in innovation is proposed, which is based on the principle of the degree of influence of the organization. This approach makes it possible to structure various factors affecting the creativity of individuals in organizations and to determine which of them the organization can influence directly, which partially, or indirectly, to which it is necessary to adapt *(Stasovskyi, Y., 2024)*. The main classification categories:

Internal factors are elements of the internal environment controlled by the organization, which create conditions for the activities of employees and influence their motivation, behavior and performance in order to achieve organizational goals.

These factors include both tangible and intangible aspects and operate mainly within the organization.

Internal factors are key to creating a favorable environment for innovation, as they influence employees' creativity, motivation, and ability to find new solutions.

Table 1
Internal factors affecting the productivity of creative activity

№	Category	Factors	Description
1	Organizational structure	The structure of the organization	The way work is organized in the company directly affects the ability to generate new ideas. A flexible structure that promotes collaboration and employee autonomy is usually more conducive to the development of creativity.
		Distribution of powers	Determines how much freedom employees have for independent decision-making and implementation of new ideas. Clearly defined roles and responsibilities, combined with sufficient autonomy for employees, enable efficient generation and implementation of innovative ideas.

Continuation of table 1

2	Corporate culture	Company values	They form the culture of the organization, which either stimulates or suppresses creativity. If the values are aimed at innovation, experimentation and openness to new ideas, then this creates a favorable environment for creative manifestations of employees.
		Ethics	They create unspoken rules of the game that affect the perception and encouragement of creative ideas. If norms promote openness, experimentation, and tolerance for failure, it stimulates creativity.
		Climate in the organization	A set of factors that influence how employees perceive their work and interact with each other. A favorable climate, where individuality and diversity of opinions are valued, promotes the development of creativity.
		Knowledge and experience of using creativity techniques	Determines the level of employees' knowledge of creative thinking techniques and their ability to apply this knowledge in practice. Reflects the extent to which the company promotes the development of the creative potential of its employees and integrates creativity into its processes.
3	Personnel management	Motivation system	It directly affects the level of creativity. If the system is aimed at encouraging innovation and new ideas, it encourages employees to be creative.
		Staff evaluation	Affects the stimulation of creativity. If the evaluation focuses not only on results, but also on process, innovation and the development of new skills, it contributes to the fact that employees will be more inclined to creative pursuits.
		Training and development	Systematic improvement of employees' knowledge and skills, creation of conditions for self-realization and professional growth contribute to the formation of a culture of innovation and stimulate activity in the search for new solutions.
		Career growth	Stimulates employees to show creativity. The opportunity to reach new professional heights, gain recognition and realize one's potential encourages individuals to search for non-standard solutions and develop innovative products or services.
4	Leadership	Leadership style	It affects the level of creativity in the team. A leader who models creative behavior, encourages employees to express new ideas and supports their initiatives, creates an atmosphere conducive to the development of innovation.
		The leader's vision	A clearly articulated and inspiring vision gives employees direction for their creative pursuits, motivates them to achieve common goals, and creates an atmosphere that fosters innovation.
5	Communications	Communication channels	Effective communication channels provide an atmosphere of trust, openness and mutual understanding, which encourages employees to express new ideas and search for non-standard solutions.
		Openness of communication	Active exchange of information, which is built on the principles of trust, honesty and mutual respect. This creates a conducive environment for collaboration, development and problem solving.

Continuation of table 1

6	Processes	Business processes	Structured ways of working that are specifically designed to encourage the emergence of new ideas and their implementation. There can be various techniques, such as brainstorming, design sprints, or creating special teams for innovation. Effective business processes allow you to generate creative ideas and ensure their further development and implementation in business.
		Project management systems	Approaches and tools that create a favorable environment for the emergence and development of innovative ideas within projects Effective project management systems often include elements such as flexible methodology (Agile), regular feedback, cross-functional teams and allocation of time for research and development new ideas. Thanks to such systems, employees experience greater freedom for creativity and willingness to take risks, which are key factors for successful innovation.
		Innovation management processes	A set of actions aimed at creating, developing and implementing new ideas, products or services. These processes include idea generation, evaluation, prototyping, testing, scaling, and commercialization.
		Risk management processes	A systematic approach to the identification, assessment and management of uncertainty that accompanies any innovative project. Accepting the risk of failure is an integral part of the innovation process. Being prepared to fail helps an organization learn and adapt more quickly.
7	Resource	Financial resources	Having sufficient funding allows you to invest in research and development, support creative projects, and provide the necessary tools and resources to implement new ideas. Financial stability creates confidence in the future and allows employees to focus on creative tasks without being distracted by everyday problems. Adequate financing of creative projects is a powerful incentive for innovation and development of the organization.
		Technological resources	A collection of tools, platforms, and software that enable people to realize their creative ideas and collaborate effectively. They provide a wide range of opportunities for experimentation, prototyping and visualization of concepts, which stimulates the development of innovation and creative solutions.
		Human resources	Employees of the organization with their knowledge, experience and skills. They are carriers of innovative ideas and ensure their implementation.
		Time resource	The amount of time spent on creative activities directly affects the quality and quantity of ideas generated, as creativity is a process that requires time for exploration, experimentation, and refinement.

Mixed factors are factors that are formed both under the influence of the organization and external circumstances (*personal, social, cultural,* etc.). They arise at the intersection of organizational conditions and influences from the environment, which are not always subject to the organization's control. The premise of distinguishing mixed factors is that there are a significant number of factors that are influenced by both the internal mechanisms of the company and external circumstances, including the personal characteristics of the employee, his social environment outside the organization.

Table 2

**Mixed factors affecting the productivity of creative activity
of individuals in the organization**

№	Category	Factors	Description
1	Psychoemo-tional and physical features	Fear	Inhibits creativity, destroying self-confidence and blocking the generation of new ideas. It can be triggered by both external factors, such as social, cultural and religious norms, and internal factors, in particular, fear of loss of financial stability, illness or job loss. In an organizational context, fear can occur when employees fear criticism, not being rewarded, or losing their job. The destructive influence of fear, regardless of its source, prevents employees from focusing on creativity and innovation, which in turn limits organizational development.
		Motivation	Influences creativity in the organization, and can be classified into internal and external. Intrinsic motivation encompasses company-created factors such as rewards, recognition, praise, and competition that encourage employees to achieve creative results. Extrinsic motivation is related to the employee's need for self-realization, challenges and satisfaction, which stimulates his energy and desire to generate new ideas and search for crea-tive solutions. Together, these two forms of motivation create a favorable environment for innovation and creativity in the organization. Despite the fact that they are formed during life under the influence of many external factors (upbringing, edu-cation, social environment), the organization can influence the change of attitudes through trainings, coaching and other tools
		Ability to take risks	A complex phenomenon that includes both internal (personal beliefs, self-esteem) and external (corporate culture, market trends) components. It is an important factor affecting people's willingness to experiment and implement new ideas. Organiza-tions can encourage the development of this ability by creating a safe environment for mistakes and providing support to employ-ees.
		Health	Influences the creativity of individuals in organizations, as physical and psycho-emotional well-being are directly correlated with the ability to generate new ideas. The internal influence of the company, in particular, through the maintenance of a healthy work environment, stress prevention programs and encourage-ment of physical activity, can have a positive effect on the cre-ative potential of employees. At the same time, external factors such as the social environment, bad habits, family circumstances and general living conditions also affect general health, which in turn can limit or stimulate employees' creativity.

Continuation of table 2

2	Social and professional factors	Social environment	The employee's environment, both internal (colleagues, corporate culture) and external (family, friends), significantly affects the ability to generate new ideas. Interaction with other people can both stimulate creativity through the exchange of ideas, and limit it through social pressure or conflict.
		Social expectations and pressure	Expectations from colleagues, supervisors, and social norms outside the organization can facilitate or hinder the creative process. Positive expectations create motivation for new ideas, while negative social pressure can create fear of mistakes and stifle creativity.
		Competition	Influences creativity through the individual's desire to be better compared to others, both in the professional environment and outside of work (among friends, relatives, siblings). Internal competition among employees stimulates the search for new solutions and innovations, while external competition - with other companies or in personal life - can motivate the development of new skills. However, excessive pressure from competition can cause stress and block creativity.
		Knowledge and experience	Knowledge and experience are the foundation on which the generation of new ideas and solutions is based. They are formed both in the process of continuous learning, gaining unique experience by an individual during his life, and through organizational learning processes and participation in organizational projects.

External factors influencing the creativity of employees are formed outside the organization and include a wide range of factors, starting from genetic characteristics and socio-cultural context, and ending with macroeconomic conditions. Since the organization has limited ability to influence these factors, its success depends on the ability to adapt to changes in the external environment and use them as a source of new ideas and opportunities *(Semenets-Orlova, I., Klochko, A., Shkoda, T., Marusina, O., & Tepliuk, M., 2021)*.

Table 3

External factors of personality development

№	Category	Factors	Description
1	Basic factors of personal development	Family and upbringing	The atmosphere in the family, the support of the child's interests, the presence or absence of restrictions - all this forms certain attitudes and beliefs in a person, which affect his ability to think creatively and solve problems.
		Education	The acquired knowledge, skills and ways of thinking form the cognitive basis on which creative activity is built. Education not only conveys facts, but also develops critical thinking, the ability to analyze and synthesize information, which is the basis for generating new ideas. In addition, education forms a person's worldview, his values and motivation, which directly affects his readiness for creative searches and innovations.

Macro environment	Economic environment	A dynamic system of interconnected economic factors that directly affects the opportunities for creativity in the organization. Economic stability, the level of investment, consumer demand and government policy form the conditions that stimulate or limit the development of innovative ideas and their implementation.
	Political environment	Favorable political conditions, such as clear rules of the game, stability of the tax system and government support for research and development, promote investment, reduce risks for innovative projects and stimulate cooperation between business and scientific institutions. It provides organizations with the necessary resources, such as funding, equipment and access to knowledge, allowing individuals to realize their full creative potential.
	Social environment	It shapes the context in which the organization operates, influencing its strategies and culture. Cultural norms, values, and societal expectations determine what products and services will be in demand in the marketplace, and shape attitudes toward innovation and change.
	Technological environment	As the driving force of the modern world, it is constantly evolving, creating new opportunities for business development and at the same time posing complex challenges. To keep up with the rapid pace of change, organizations must not only innovate, but also be prepared to constantly transform their business processes and models. After all, it is the interaction of technologies and human creativity that is the key to success in modern business.
	Natural environment	Environmental conditions, climate change, natural resources and geographical location directly affect production processes, logistics, availability of raw materials and energy, as well as the psychological state of people.

Figure 1 visualizes the proposed classification of factors based on the principle of the degree of influence of the organization. Internal factors (shown in white) are the main tools of influence on individuals in the organization and are shaped by the organization. External factors (shown in black) affect both the organization and the individuals in the organization and are not influenced by the organization. Mixed factors (shown in gray) are partly influenced by the organization and partly formed outside the organization. For a deeper understanding of the interaction between internal, mixed and external factors, you can draw an analogy with the elements of ninjutsu, which are built on the Japanese philosophy of Godai (五大), (*Okamoto, S. 2012*). Godai means "five great" and includes the five elements: earth (chi), water (sui), fire (ka), wind (fu), and emptiness (ku). This concept describes not only the physical aspects, but also the emotional and strategic patterns of behavior that can be applied in martial arts, including ninjutsu (*Miller, J. 1996*).

In our case, we can build the following analogy:

- Earth symbolizes stability and structure, which corresponds to the internal factors of the organization. This is what the company controls, for example, the organizational structure and corporate culture;

- Water reflects flexibility and adaptation to external conditions, which characterizes mixed factors. Water can change its form, just as mixed factors can vary under the influence of internal and external conditions;
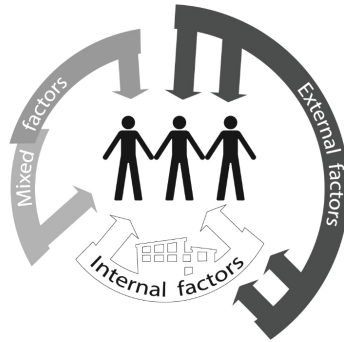
Figure 1 Factors affecting the productivity of creative activity of individuals in the organization

Source: developed by the author

- The wind represents the dynamism and unpredictability of the external environment, which corresponds to external factors. An organization cannot control external forces, but must adapt to them, like the wind changing its direction.

This analogy between Godai-based ninjutsu elements and classes of creativity factors highlights the importance of stability, adaptability, and flexibility in the processes influencing organizational creativity.

Further research should focus on a deeper understanding of creativity techniques as a key element of innovative activity in organizations. It is necessary not only to study existing methods of stimulating creative thinking, but also to develop optimal combinations of techniques depending on the needs of developers, which will contribute to increasing the innovative potential of companies. The effectiveness of the application of these techniques should be justified on the basis of detailed analyzes and practical studies, which will allow to evaluate their effectiveness effectiveness in different organizational contexts.

In addition, it is important to conduct an empirical study of the influence of each of the factors that have been identified as internal, mixed, and external. Surveying organizations of different sizes and industries will provide a deeper understanding of how these factors affect creative productivity. The obtained results can become the basis for correcting the existing classification of creativity factors, which will allow taking into account their real influence at various stages of organizational activity. In particular, additional clarification or revision of individual factors may be needed to more accurately reflect their role in creativity and innovation processes. Such an empirical approach will allow not only to deepen theoretical knowledge, but also to create practical recommendations for companies regarding creativity management at different levels of the organizational structure. The proposed directions of research will allow a more in-depth study of the phenomenon of creativity and the development of new tools and methods for its development in organizations.

5. Conclusions

In the process of research, an analysis of various theories and models of creativity was carried out, which made it possible to formulate important conceptual conclusions regarding its functional role in the conditions of the modern knowledge economy. It has been found that in

the context of dynamic market conditions, the knowledge and experience of employees' creativity techniques become key factors that enable the predictable generation of quality ideas. These ideas, in turn, are transformed into effective innovations that are crucial for ensuring the competitiveness of organizations. In order to systematize factors affecting organizational creativity, a classification of these factors was developed, focusing attention on the potential influence of organizational structures and processes on them. This classification allows the identification of factors that the organization can directly influence, which, in turn, creates conditions for the formation of purposeful strategies for their development. In addition, an analysis of factors on which the organization has a partial influence was carried out, which indicates the need to formulate recommendations for their optimization and efficiency improvement. In addition, the understanding of external factors over which the organization has no influence emphasizes the need for adaptability and flexibility of organizational processes in response to changes in the external environment. This enables companies to remain competitive and implement innovative strategies in a rapidly changing market landscape. The obtained results make it possible to develop practical recommendations for organizations that seek to increase the level of creativity of their employees and use modern technologies to support creative processes.

References

1. Florida, R. (2002). The rise of the creative class: And how it's transforming work, leisure, community and everyday life (Nachdr.). New York, NY: Basic Books.

2. Florida, R. L. (2012). The rise of the creative class, revisited. New York, NY: Basic Books.

3. Statista. (n.d.). Skills on the rise. Retrieved from https://www.statista.com/statistics/1383183/skills-on-the-rise/

4. Deloitte. (2023). 2023 Global marketing trends.

5. Rhodes, M. (1961). An analysis of creativity. The Phi Delta Kappan, 42(7), 305–310.

6. Amabile, T. M. (2012). Componential theory of creativity. Harvard Business School, April 26, 2012.

7. Amabile, T. M., & Pratt, M. G. (2016). The dynamic componential model of creativity and innovation in organizations: Making progress, making meaning. Research in Organizational Behavior, 36, 157–183.

8. Drazin, R., Glynn, M., & Kazanjian, R. (1999). Multilevel theorizing about creativity in organizations: A sensemaking perspective. Academy of Management Review, 24(2), 286–307.

9. Udwadia, F. E. (1990). Creativity and innovation in organizations: Two models and managerial implications. Technological Forecasting and Social Change, 38, 65–80.

10. West, M. A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. Applied Psychology: An International Review, 51(3), 355–424.

11. Ambrose, G., & Harris, P. (2003). The fundamentals of creative design. AVA Publishing SA.

12. Mansfield, R. S., Busse, T. V., & Krepelka, E. J. (1978). The effectiveness of creativity training. Review of Educational Research, 48(4), 517–536.

13. Torrance, E. P. (1977). Encouraging creativity in the classroom. National Education Association, Washington, D.C. https://doi.org/10.2307/4443233

14. Zusman, A. (1998). Overview of creative methods. Ideation International, Southfield, MI, USA.

15. Gordon, W. J. J. (1961). Synectics: The development of creative capacity. New York, NY: Harper & Row.

16. Osborn, A. F. (1963). *Applied imagination: Principles and procedures of creative problem-solving* (3rd ed.). New York, NY: Charles Scribner.

17. De Bono, E. (1993). *Serious creativity: Using the power of lateral thinking to create new ideas.* New York, NY: HarperBusiness. Retrieved from https://archive.org/details/seriouscreativit00debo

18. Cheong, S. H., Lenyashin, V. A., & Kynin, A. T. (2008). *TRIZ and innovation culture at Samsung Electro-Mechanics Company. The Fourth TRIZ Symposium in Japan.* Retrieved from https://www.osaka-gu.ac.jp/php/nakagawa/TRIZ/eTRIZ/epapers/e2009Papers/eCheong-TRIZSymp2008/09eP-Cheong-TRIZSymp2008-090709.pdf

19. Semenets-Orlova, I., Klochko, A., Shkoda, T., Marusina, O., & Tepliuk, M. (2021). *Emotional intelligence as the basis for the development of organizational leadership during the covid period (educational institution case). Estudios de Economía Aplicada, 39(5).* DOI: 10.25115/eea.v39i5.5074

20. BCG. (2023). *Global innovation survey 2023; BCG analysis.* Retrieved from https://web-assets.bcg.com/45/1a/7c66e24b48c08619e61cf0d6afea/bcg-most-innovative-companies-2023-reaching-new-heights-in-uncertain-times-may-2023.pdf

21. Smart, M. (2024, July 1). *How Google uses design thinking to innovate! Design thinking blog.* Retrieved from https://designthinkingblog.com/design-thinking/design-thinking-google/

22. Scholes, L. (2021, September 2). *Sprinting ahead: How design sprints became the way Google—and the world—creates. Design Google.* Retrieved from https://design.google/library/design-sprints

23. Stasovskyi, Y. V. (2024). *Combinatorics of creativity techniques in innovative entrepreneurship: Doctor of Philosophy dissertation: 076 / Stasovskyi Yuriy Volodymyrovych; Kyiv National Economic University named after Vadym Hetman. Kyiv, 2024. 260 p.* Retrieved from https://ir.kneu.edu.ua/handle/2010/46552 . [in Ukrainian]

24. Okamoto, S. (2012). *Around the philosophy of Godai. Journal of International Society of Life Information Science, 30(1).*

25. Jeff M. Miller (1996) *5 ELEMENT CODES (PART 1)* http://www.ninjutsu.co.uk/uraomote/96/june.html

QUANTIFYING ALGORITHMIC BIAS IN NEWS RECOMMENDATIONS: METHODOLOGIES AND CASE STUDIES

Roman Tsekhmeistruk

Postgraduate Student, Kyiv University of Culture, Ukraine
e-mail: roma170767@gmail.com, orcid.org/0009-0000-4893-5938

Summary

This study investigates algorithmic bias in news recommendations, a critical issue in today's digital media landscape. As recommendation algorithms curate personalized content, they can also perpetuate systematic biases that distort information access and public discourse. The research begins with a literature review, identifying key themes and gaps in understanding algorithmic bias.

A robust methodology is developed, incorporating user-centric analyses, content diversity assessments, and fairness evaluations to quantify the impact of bias in news recommendations. Through detailed case studies, the study highlights how biased algorithms shape user experiences, limit exposure to diverse perspectives, and contribute to societal polarization.

The findings emphasize the urgent need for ethical considerations in algorithm design and provide actionable recommendations for media organizations, technology companies, and policymakers. By advocating for transparency, accountability, and user empowerment, this research aims to foster a more equitable digital information environment. Ultimately, the study contributes to the discourse on algorithmic bias, promoting a media landscape where diverse voices are heard and the integrity of journalism is maintained in the age of personalization.

Key words: algorithmic bias, news recommendations, digital media, user engagement, content diversity, transparency, media organizations, democratic discourse.

1. Introduction

In an increasingly digitized world, news consumption is profoundly influenced by recommendation algorithms that curate content based on user preferences and behaviors. While these algorithms enhance the personalization of news, they simultaneously raise significant concerns regarding algorithmic bias–the systematic and unfair discrimination that can occur when algorithms amplify existing inequalities. This paper addresses the critical need to quantify algorithmic bias in news recommendations, contributing to a growing body of literature that seeks to understand the implications of algorithm-driven content dissemination for democratic discourse and public engagement.

The novelty of this study lies in its comprehensive examination of algorithmic bias in news recommendations, focusing on both its quantification and its broader societal implications. Although previous research has highlighted the existence of biases in digital content distribution, there remains a significant gap in methodologies for measuring these biases systematically. This paper seeks to fill this gap by proposing a robust framework for quantifying algorithmic bias, supported by case studies that illustrate the real-world consequences of biased recommendations.

The relevance of this study is underscored by the increasing reliance on algorithmic systems in media consumption. As traditional news outlets adapt to the digital landscape, understanding the implications of algorithmic bias becomes essential for ensuring journalistic integrity and fostering informed citizenship. The findings of this research will not only inform media organizations and technology companies about the ethical considerations of algorithm design but will also guide policymakers in creating frameworks that promote transparency and accountability in algorithmic practices.

The primary purpose of this study is to quantify algorithmic bias in news recommendations and explore its implications for news consumption patterns and public discourse. By employing a multi-method approach, this research aims to identify the mechanisms through which algorithmic bias operates, assess its impact on user experiences, and propose strategies for mitigating its effects.

To achieve this purpose, the study addresses the following research tasks:

1. Review the existing literature on algorithmic bias in news recommendations to identify key themes and gaps in research.

2. Develop a comprehensive methodology for quantifying algorithmic bias, incorporating user-centric, content-based, and fairness evaluation approaches.

3. Conduct case studies to illustrate the practical implications of algorithmic bias on news consumption and user engagement.

4. Analyze the findings to propose recommendations for media organizations, technology companies, and policymakers aimed at mitigating algorithmic bias in news recommendations.

This study employs a multi-method research design that integrates qualitative and quantitative approaches to provide a holistic understanding of algorithmic bias in news recommendations. The methodology includes:

– Literature Review: An extensive review of existing research to contextualize the study within the broader discourse on algorithmic bias and its implications for media.

– Quantitative Analysis: Utilizing user interaction data, sentiment analysis, and diversity metrics to assess the presence and impact of biases in news recommendations.

– Case Studies: In-depth examinations of specific news platforms to illustrate the effects of algorithmic bias on content visibility and user engagement.

The presentation of research material follows a logical progression, beginning with the literature review, followed by a detailed discussion of methodologies, analysis of case studies, and concluding with a discussion of findings and implications. This structure aims to provide a clear and coherent narrative that guides the reader through the complexities of algorithmic bias in news recommendations.

2. Methodologies for quantifying algorithmic bias in news recommendations

Quantifying algorithmic bias in news recommendations requires a comprehensive approach that combines qualitative and quantitative methodologies. This section outlines various techniques and frameworks that can be employed to analyze and measure the presence and impact of biases within recommendation algorithms.

User-centric methodologies prioritize the experiences and behaviors of users in response to news recommendations. These approaches provide insights into how biases affect content consumption patterns. Key techniques include:

– Behavioral Trace Analysis: This method involves collecting and analyzing user interaction data–such as clicks, reading time, and engagement metrics–to identify patterns of content

exposure. By tracking users over time, researchers can measure shifts in diversity and detect whether users are being funneled into echo chambers, where they primarily encounter content that reinforces their existing beliefs.

– Surveys and Interviews: Direct feedback from users through surveys or interviews can uncover perceptions of bias and user awareness of the algorithms' influence on their news consumption. These qualitative insights can help contextualize behavioral data, providing a more nuanced understanding of user experiences with recommendations.

– Audience Segmentation Analysis: By segmenting users based on demographics, political affiliation, or interests, researchers can examine how different groups are affected by algorithmic bias. This analysis can reveal whether specific demographics experience greater content homogenization or lack of exposure to diverse viewpoints.

While user-centric approaches are valuable for understanding the effects of algorithmic bias on individual experiences, they face challenges in isolating the algorithm's influence from user agency and preferences.

Content-based methodologies focus on the characteristics of the news articles being recommended and assess their biases. Techniques include:

– Sentiment Analysis: By analyzing the sentiment of recommended articles–whether they convey positive, negative, or neutral emotions–researchers can identify potential biases in the types of content being promoted. Algorithms that prioritize emotionally charged or sensational content can lead to skewed perceptions of events or issues.

– Topic Modeling: Techniques such as Latent Dirichlet Allocation (LDA) or neural network models can help identify the main topics present in recommended articles. This analysis can reveal whether the algorithm promotes a narrow range of themes or fails to surface underrepresented topics, contributing to content bias.

– Source Diversity Analysis: By assessing the frequency and credibility of different news sources in recommendations, researchers can evaluate whether algorithms disproportionately favor certain outlets. A lack of diversity in sources can result in a homogenized narrative, undermining journalistic integrity and limiting users' exposure to a range of perspectives.

Content-based methods are crucial for quantifying the biases embedded within algorithms. However, they require careful consideration of the definitions and metrics used to assess bias, as nuances in language and framing can complicate the analysis *(Malenkov O., 2022)*.

Diversity metrics are essential for assessing the variety of content presented to users. These metrics can highlight potential biases in recommendations. Common diversity metrics include:

– Topic Diversity: Measured using indices like Shannon entropy, topic diversity assesses the range of different themes presented in recommended articles. A low diversity score suggests that the algorithm is promoting a limited set of topics, which may reinforce user biases and create echo chambers.

– Source Diversity: This metric evaluates the variety of news sources represented in recommendations. By calculating the proportion of articles from various outlets, researchers can determine whether users are exposed to a broad spectrum of viewpoints or if they predominantly see content from a narrow set of sources.

– Novelty and Serendipity: Metrics for novelty assess how often users are presented with new topics, while serendipity gauges the extent to which recommendations introduce unexpected but relevant content. High novelty and serendipity scores indicate that users are encountering a diverse range of perspectives, whereas low scores may signal algorithmic bias favoring familiar or popular content.

Diversity metrics are critical for understanding how well algorithms perform in providing varied content. However, defining optimal diversity thresholds can be complex and may vary across different user groups and contexts.

Bias audits provide a systematic framework for evaluating algorithms to identify biases across various dimensions. Techniques in bias auditing include:

– A/B Testing: By creating different user profiles with controlled variations (e.g., political affiliation, geographic location), researchers can conduct A/B tests to observe how recommendations differ. This method helps uncover biases that might favor certain perspectives or demographics.

– Counterfactual Analysis: This technique involves modifying specific attributes of user profiles (such as changing a user's political preference) to assess how recommendations shift in response. Counterfactual analysis allows researchers to identify biases in the algorithm's outputs based on user characteristics.

– Third-Party Audits: Engaging independent auditors to assess algorithmic bias can enhance transparency and accountability. Third-party audits provide an impartial assessment of biases within recommendation systems, offering insights that internal assessments might overlook.

Bias audits are valuable for systematically identifying and quantifying algorithmic biases. However, they require significant resources and controlled conditions to ensure reliable results.

Fairness evaluation frameworks provide guidelines for assessing the ethical implications of recommendation algorithms and their biases. Frameworks include:

– Demographic Parity: This principle states that recommendations should be similar across different demographic groups, ensuring that users receive equitable exposure to diverse content. By evaluating demographic parity, researchers can identify biases that favor certain groups over others.

– Equalized Odds: This framework focuses on ensuring that users with similar preferences receive similar quality recommendations, regardless of demographic characteristics. Equalized odds help ensure that algorithmic biases do not disadvantage particular user groups.

– Ethical Frameworks: These frameworks draw from principles of journalism ethics and societal responsibility, emphasizing transparency, accountability, and inclusivity in algorithmic design. They promote the need for algorithms that enhance democratic discourse and serve the public interest.

Fairness frameworks help establish standards for responsible algorithmic practices. However, the challenge lies in implementing these frameworks in a way that is scalable and adaptable to diverse cultural contexts.

3. Case studies of algorithmic bias in news recommendations

Understanding the real-world implications of algorithmic bias in news recommendations necessitates a close examination of case studies that highlight how these biases manifest in different contexts. This section presents several case studies from major news platforms, illustrating the multifaceted nature of algorithmic bias and its impact on user engagement and information diversity.

Facebook has faced considerable scrutiny regarding the biases inherent in its news feed algorithm. A notable case occurred during the 2016 U.S. presidential election, where investigations revealed that the algorithm prioritized sensational and emotionally charged content,

which was often politically biased. The platform's design favored posts that generated high user engagement, leading to the amplification of certain narratives while suppressing others. Studies showed that users who interacted predominantly with conservative content received an even narrower range of information, reinforcing ideological divides *(Bohdanov A., 2020)*.

In response to growing criticism, Facebook has implemented changes to its algorithm to promote "meaningful interactions." However, concerns about the underlying biases remain. For instance, researchers have noted that while efforts were made to reduce the spread of misinformation, the new algorithmic adjustments sometimes led to a resurgence of clickbait headlines and sensational content, reflecting a persistent tension between engagement and informational integrity. This case underscores how algorithmic bias can shape public discourse, particularly during significant political events, by prioritizing engagement over balanced reporting.

YouTube's recommendation algorithm has also been scrutinized for promoting extreme or sensational content, leading users down a "rabbit hole" of increasingly radical material. A study published by researchers at MIT found that users who began with a moderate video on a contentious issue were often recommended more extreme viewpoints, with algorithms favoring content that generated high engagement through likes, shares, and watch time. This dynamic was particularly evident in political content, where viewers reported that their recommendations shifted significantly toward more polarizing material *(Kovalchuk V., 2019)*.

YouTube's algorithm operates on a feedback loop, where user engagement metrics influence future recommendations. As a result, creators may feel incentivized to produce more extreme content to capture viewer attention, leading to a homogenization of viewpoints and a decrease in exposure to balanced or nuanced discussions. In an effort to address these issues, YouTube has attempted to promote authoritative sources and provide context for controversial videos. Nevertheless, debates persist about the efficacy of these interventions and their ability to mitigate the biases ingrained in the recommendation system.

Twitter's algorithm has also faced criticism, particularly regarding its role in amplifying harmful content and creating echo chambers. A case study during the 2020 U.S. presidential election highlighted how the platform's algorithm disproportionately surfaced tweets from accounts that engaged in polarizing rhetoric, often sidelining moderate voices. Researchers found that users were more likely to encounter politically extreme tweets, which could exacerbate partisan divisions and limit exposure to diverse perspectives.

In an effort to combat misinformation and bias, Twitter introduced a feature to label misleading tweets and provide users with context. However, the effectiveness of these interventions has been debated, as users still report experiencing biased content in their timelines. Furthermore, the challenges of algorithmic bias are compounded by the platform's real-time nature, where the rapid spread of information can hinder attempts to moderate content effectively. This case illustrates the difficulties in balancing user engagement with the ethical responsibility of fostering a healthy discourse.

Google News has also encountered challenges related to algorithmic bias, particularly in its personalization features. A study examining the impact of personalized recommendations on political news found that users with differing political affiliations received markedly different news feeds. For instance, conservative users were more likely to receive news articles that reinforced their existing beliefs, while liberal users encountered a similar effect in the opposite direction. This personalization can lead to a fragmented news landscape, where individuals exist within echo chambers and are less likely to encounter opposing viewpoints *(Barkas S., 2021)*.

In response to criticism, Google has experimented with various features aimed at promoting diverse perspectives, such as "Full Coverage" options that provide multiple viewpoints

on a story. However, the effectiveness of these features remains uncertain, as users often prefer content that aligns with their preferences. This case highlights the inherent challenges of creating a personalized news experience that maintains exposure to diverse perspectives while catering to user preferences.

The case studies presented illustrate the pervasive nature of algorithmic bias in news recommendations across major platforms. They highlight the significant implications for public discourse, emphasizing the need for continued scrutiny and reform of algorithmic systems. As biases in recommendation algorithms can perpetuate misinformation, polarize audiences, and limit access to diverse viewpoints, it is crucial for news platforms to prioritize transparency and accountability in their algorithmic design.

Future research should focus on developing better methodologies for detecting and mitigating algorithmic bias, integrating user feedback mechanisms, and exploring ethical frameworks that prioritize fair and balanced news representation. Additionally, fostering collaboration between researchers, platform developers, and journalists can help create more informed, responsible algorithms that serve the public interest while enhancing the diversity of information available to users *(Dikhtiievskyi P., 2015)*.

4. Discussion

The findings of this study underscore the complex interplay between algorithmic bias and news recommendations, revealing both the pervasive nature of bias in digital news consumption and the urgent need for strategies to address it. This section discusses the implications of these findings for various stakeholders, including media organizations, technology companies, policymakers, and the public, while also considering the broader societal impacts of algorithmic bias.

Media organizations are at the forefront of the challenges posed by algorithmic bias. As news consumption increasingly shifts to digital platforms, traditional journalism ethics must adapt to the realities of algorithmically mediated information. The findings suggest that media organizations need to prioritize transparency in their use of algorithms and actively work to mitigate bias in their content distribution strategies *(Zhukov D., 2020)*.

1. Adopting Ethical Standards: Establishing ethical guidelines for algorithmic practices can enhance accountability and promote fair representation in news recommendations. Media organizations must ensure that their algorithms do not inadvertently reinforce existing inequalities or promote sensationalism at the expense of journalistic integrity.

2. Enhancing Diversity: Media outlets should actively seek to diversify the voices and perspectives represented in their content. By curating a broader range of sources and viewpoints, organizations can counteract the effects of algorithmic bias and promote a more informed public.

3. Audience Engagement: Engaging audiences in discussions about algorithmic transparency and bias can empower users to become more critical consumers of news. Media organizations should consider initiatives that educate the public about how algorithms influence content delivery, fostering greater awareness and critical thinking.

Technology companies, as the architects of recommendation algorithms, bear significant responsibility for addressing algorithmic bias. The findings indicate that these companies must prioritize ethical considerations in their algorithm design and implementation.

1. Implementing Fairness Metrics: Technology companies should integrate fairness metrics into their algorithm evaluation processes. By routinely assessing the impact of their

algorithms on diverse user groups, companies can identify and rectify biases before they become entrenched.

2. Collaborative Approaches: Collaborating with external researchers, ethicists, and civil society organizations can enhance transparency and accountability in algorithmic design. Such partnerships can provide valuable insights into user experiences and foster more equitable practices in content distribution.

3. User Empowerment Tools: Providing users with tools to customize their news recommendations can enhance agency and promote exposure to diverse perspectives. By enabling users to tailor their content preferences, technology companies can mitigate the risks of algorithmic bias and foster a more informed public *(Sydorenko V., 2021)*.

The societal impacts of algorithmic bias in news recommendations extend beyond individual users, influencing public discourse and democratic processes. The findings suggest that unchecked bias can exacerbate polarization, undermine trust in media, and hinder informed civic engagement.

1. Polarization and Fragmentation: As algorithms curate content that aligns with users' existing beliefs, there is a risk of creating increasingly polarized information environments. This fragmentation can hinder constructive dialogue and compromise the foundations of democratic discourse.

2. Trust in Media: The prevalence of algorithmic bias can erode public trust in media institutions. When users perceive that algorithms promote biased or sensational content, they may become skeptical of the information they receive, undermining the role of journalism in society.

3. Informed Citizenship: Algorithmic bias poses challenges to informed citizenship, as users may be less exposed to diverse viewpoints and critical information. Ensuring equitable access to quality information is crucial for fostering an informed and engaged populace.

5. Conclusions

The pervasive use of recommendation algorithms on news platforms has fundamentally reshaped the media landscape, offering personalized content but often at the cost of diversity and impartiality. This study has shown that while recommendation algorithms can enhance user engagement by curating content to individual preferences, they can also amplify biases rooted in user behavior, data selection, and algorithmic design choices. Through comprehensive methodologies and case studies, this paper has explored the multifaceted ways in which algorithmic bias impacts news consumption, limiting exposure to diverse perspectives and reinforcing echo chambers.

The case studies reveal distinct patterns of algorithmic bias across multiple platforms:

– Platform X's Political Bias: Engagement-driven algorithms tend to favor politically polarized content, especially during critical events like elections. This suggests that algorithms prioritizing high engagement metrics are vulnerable to bias by amplifying sensational or polarizing narratives that deepen existing divisions.

– Popularity Bias on Platform Y: By favoring well-established sources, the algorithmic structure on Platform Y resulted in a homogenized news feed, underrepresenting independent and minority perspectives. This lack of source diversity poses significant implications for the public's exposure to a range of viewpoints, creating an information landscape dominated by mainstream narratives.

– Sensationalism on Platform Z: Algorithms prioritizing viewer engagement often favor sensationalist content. This creates a skewed information environment where content that

garners strong emotional reactions, regardless of its factual depth, is amplified. Such sensation-alism risks promoting misinformation or trivializing complex issues by prioritizing entertain-ment value over journalistic integrity.

Together, these case studies highlight how biases embedded within recommendation algorithms can disproportionately shape the public's understanding of current events. The find-ings underscore a pressing need for media platforms to take a proactive approach in mitigating bias and enhancing diversity in recommended news content.

Algorithmic bias has far-reaching implications that extend beyond individual user experiences to affect society as a whole. When news recommendations reinforce existing preferences or amplify extreme viewpoints, they can foster echo chambers and contribute to societal polarization. Users who are repeatedly exposed to the same perspectives may become less receptive to alternative viewpoints, weakening the foundation for informed public dis-course. The erosion of exposure to diverse information sources has serious consequences for democratic societies, as citizens rely on access to varied and balanced information to make informed decisions.

The impact of biased news recommendations is particularly critical given the increased reliance on digital platforms as primary news sources. With the decline of traditional journalism and local news outlets, many people now rely on a small number of digital platforms for their news. Consequently, the biases embedded within these platforms' algorithms have a more pro-found influence on shaping public opinion, potentially leading to a homogenized view of world events that lacks nuance and diversity. This scenario can diminish critical thinking and inhibit cross-ideological conversations, contributing to a fragmented society where understanding and consensus are increasingly difficult to achieve.

Addressing algorithmic bias in news recommendations is not only a technical challenge but an ethical imperative. The study's findings suggest that while personalization can increase user satisfaction, it should not come at the expense of balanced news exposure. Algorithms must be designed with ethical considerations that prioritize informational integrity, which includes transparency about how recommendations are made and a commitment to represent a range of voices and perspectives.

Regulatory bodies can play an essential role in promoting fairness and accountability in recommendation systems. Policies could require platforms to disclose the factors that influence content recommendations, enabling users to make more informed choices about the informa-tion they consume. Additionally, platforms should consider implementing regular third-party audits to assess bias in their algorithms and provide public reports. Such measures could help bridge the gap between users and platforms, fostering trust and ensuring that recommendation systems contribute positively to society.

While eradicating all forms of algorithmic bias may be infeasible, this study advocates for a set of guiding principles to mitigate its impact and promote fairness in news recommen-dations:

– Incorporating Diversity Metrics: Algorithms could be designed to track and enhance content diversity, ensuring that users receive a broader range of viewpoints and topics. By balancing recommendations to include minority voices, independent sources, and alternative perspectives, platforms can reduce the tendency toward homogenized or polarized content.

– User Empowerment through Transparency: Giving users insight into why certain arti-cles are recommended fosters transparency and accountability. Features that allow users to adjust the weight of different recommendation factors (e.g., topic variety, source diversity) could help them actively shape their content experience.

– Dynamic Feedback Loops: Algorithmic bias often emerges from static recommendation parameters that fail to account for changes in user behavior or public sentiment. Incorporating dynamic feedback loops that regularly update and recalibrate recommendations based on diverse user interactions can reduce biases over time.

This study emphasizes the need for ongoing research to address the complexities of algorithmic bias in media. Future work should focus on:

– Real-Time Bias Monitoring Systems: Developing real-time systems for monitoring and correcting bias in recommendation algorithms can allow platforms to dynamically adjust their recommendations and respond to emerging bias trends.

– Longitudinal Impact Studies: Analyzing the long-term effects of biased recommendations on user behavior and public opinion will provide insights into the cumulative impact of these systems on society.

– Collaborative Research with Diverse Stakeholders: Effective solutions will require collaboration between data scientists, journalists, ethicists, and policymakers. By working together, these stakeholders can develop ethical frameworks and guidelines that balance personalization with diversity, ensuring that recommendation systems serve the public good.

In conclusion, quantifying and addressing algorithmic bias in news recommendations is an essential step toward creating an informed and cohesive society. The findings of this study offer a foundation for building recommendation algorithms that not only deliver personalized content but also respect the need for balanced and inclusive public discourse. By committing to ethical transparency, regulatory oversight, and technical innovation, platforms can evolve beyond mere engagement maximizers to become custodians of a healthier, more diverse media ecosystem.

References

1. Barkas, S. (2021). Alhorytmy v ZMI: Vplyv na informatsiini perekryttia [Algorithms in the media: Influence on information filtration]. Kyiv: Osnovy. [in Ukrainian]

2. Bohdanov, A. H. (2020). Medialna etika ta alhorytmy: Problemy ta perspektyvy [Media ethics and algorithms: Problems and perspectives]. Lviv: Vydavnytstvo LNU. [in Ukrainian]

3. Dikhtiievskyi, P. V., Lahniuk, O. M. (2015). Cadrove zabezpechennia sudiv zahalnoi yurysdyktsii: administratyvnyi i pravovyi aspekt [Staff assistance of courts of general jurisdiction: Administrative and legal aspect]. Kherson: Helevetyka. [in Ukrainian]

4. Kovalchuk, V. A. (2019). Vplyv alhorytmiv rekomendatsii na spozhyvannia novyn: Vyklyky ta shliakhy [The influence of recommendation algorithms on news consumption: Challenges and pathways]. Odesa: Astro. [in Ukrainian]

5. Malenkov, O. (2022). Alhorytmy ta pravyla informatsiinoi bezpeky: Vyvchennia vplyvu na suspil'stvo [Algorithms and rules of information security: Studying their impact on society]. Dnipro: Nova Doba. [in Ukrainian]

6. Petrenko, I. V. (2023). Medialni rekomendatsii ta demokratychnyi dyskurs: Udoskonalennia alhorytmiv [Media recommendations and democratic discourse: Enhancing algorithms]. Kharkiv: Prava. [in Ukrainian]

7. Sydorenko, V. (2021). Problemy alhorytmychnykh biasiv v novynnykh rekomendatsiiakh [Problems of algorithmic biases in news recommendations]. Vinnytsia: Vydavnytstvo VNTU. [in Ukrainian]

8. Zhukov, D. (2020). Vplyv alhorytiv na suspil'ne poymyttia informatsii [The influence of algorithms on public perception of information]. Ternopil: Ternopil's'kyi Natsional'nyi Universytet. [in Ukrainian]

HEALTH, ENVIRONMENT, DEVELOPMENT

CLINICAL AND PATHOGENETIC BASES OF DIFFERENTIATED APPROACH IN THE TREATMENT OF GENERALIZED PERIODONTITIS

Inna Gorb-Gavrylchenko

Doctor of Philosophy, Associate Professor, Associate Professor at the Department of Therapeutic Dentistry, Dnipro State Medical University, Ukraine
e-mail: 501_05@dmu.edu, orcid.org/0009-0009-4438-4660

Summary

To assess the effectiveness of a differentiated approach in the treatment of generalized periodontitis in women after ovariectomy, the indicators of bone tissue metabolism (bone metabolism markers osteocalcin and oxyproline, and calcium-regulating hormones – calcitonin and parathormone)) in this contingent of patients were investigated. According to the results of the research, it was established the need to distinguish three forms of the activity of the osteoporotic process (low activity, medium and high activity) in the alveolar bone with the subsequent application of individual tactics for the treatment of generalized periodontitis in patients of these groups. According to the obtained results, it was established that with low activity of osteoporosis in the alveolar bone (the presence of weakly active foci), monotherapy with calcium preparations is sufficient for women after total ovariectomy. With medium and high activity (moderately active and active foci of osteoporosis), it is advisable to prescribe, in addition to calcium preparations, antiresorptive agents in combination with drugs that normalize the hormonal background.

According to the conducted studies, it is advisable to prescribe the drug Calcium D$_3$ to women with mildly active foci of osteoporosis in the alveolar bone. In the presence of moderately active and active foci of osteoporosis in the alveolar bone, it is recommended to prescribe the drugs Calcium D$_3$ Nikomed, Fosamax and the drug Progynova as a replacement hormone therapy.

Key words: ovariectomy, foci of osteoporosis, markers of bone metabolism, generalized periodontitis, treatment.

1. Introduction

Generalized periodontitis is an urgent problem of modern dentistry, the main direction of which is the search and justification of the use of pathogenetic therapy, differentiated prescription of drugs in accordance with the periodontitis clinic, dental status and general somatic condition of patients *(Mazur I.P., 2004)*. The number of patients suffering from this pathology still remains at a high level, despite the high level of organization of modern qualified assistanceм

(Civitelli R, Ziambaras K., 2011). The main mass the patients who consult a periodontologist, there are women in whom periodontal tissue diseases most often occur and progress during artificial menopause *(Leder B.Z., 2020)*. Treatment of generalized periodontitis in women with surgical menopause should take into account the causes and mechanisms of osteoporosis in the alveolar bone, that is, be etiopathogenetic. It has been established that in women with "disabled" ovarian function, suffering from generalized periodontitis, foci of osteoporosis of low, medium and high activity are formed in the alveolar bones *(Gorb-Gavrylchenko I.V., 2002)*. Earlier studies made it possible to develop clear indications for prescribing osteotropic and replacement hormone therapy and to test treatment schemes depending on the activity of the osteoporotic process in the alveolar bone *(Mashchenko I.S., 2005)*.

The aim is to evaluate the results of the effectiveness of the differentiated use of drugs in the treatment of generalized periodontitis in women after total ovariectomy.

2. Research results

70 women who underwent ovariectomy and suffer from generalized periodontitis between the ages of 30 and 50 were examined. The first group (32 women) included patients with weakly active foci of osteoporosis in the alveolar bone, the second (38 women) – with moderately active and active foci of osteoporosis. The control group consisted of 20 healthy women without clinical and biochemical signs of the inflammatory and destructive process in the periodontium. For women with weakly active foci of the osteoporotic process in the alveolar process (group I), it is advisable to use Nicomed Calcium-D$_3$. With medium and high activity of the osteoporotic process in the bone structures of the periodontium (II group) – it is necessary to use a combination of drugs with different mechanisms of action. Such a combination was made up of Calcium-D$_3$ Nikomed, Fosamax and hormone replacement therapy drug Proginova. Inspection, necessary corrective treatment, preventive measures were carried out by actively challenging patients with generalized periodontitis, against the background of surgical menopause, 3 and 5 years after the completed course of treatment. Clinical examination of patients was carried out according to the generally accepted scheme, which includes analysis of patients' complaints, collection of anamnesis, examination, objective data. To objectively assess the condition of periodontal tissues, the parameters of periodontal tests and indices were taken into account: periodontal index data according to A.L. Russel (1956), Schiller-Pysarev digital test, PMA index, gum bleeding index according to H.R. Muhlemain (1971). The bone tissue of the periodontium was evaluated according to orthopantomograms using the index of the osteoporotic process *(I.S. Mashchenko, A.V. Samoilenko, 2002)*. Bone tissue remodeling processes were assessed by blood osteocalcin levels and urinary oxyproline excretion. The content of calcitonin and parathyroid hormone in the blood was determined by the radioimmunological method.

In determining the results, the aim was not only to identify the sustainability of the achieved effect of complex measures, but also to establish what adjustments should be made at the stages of dispensary observation depending on the degree of expression of clinical and paraclinical signs of generalized periodontitis in women after ovariectomy. During the analysis of the remote results of treatment of generalized periodontitis in women who underwent ovariectomy, a tendency towards longer clinical and radiological stabilization was noted when using complex treatment, most fully correcting the hormonal and metabolic disorders observed in the work.

During the analysis of the long-term results of treatment of generalized periodontitis in women, after total ovariectomy, clinical and radiological stabilization 3 years after the

procedure was observed in 61 (87.1%) of 70 patients, relapse of the disease occurred in 9 (12.9%) women, after 5 years, respectively, in 80.0% and 20.0% of patients. In patients of the first group of the study, positive clinical results were registered after 3 years in 84.4% of cases, and after 5 years in 75.0% of cases, there were no clinical and paraclinical signs of generalized periodontitis, positive radiological dynamics of the process were noted. The return of the clinical and radiological state to the initial before treatment after 3 years was observed in 5 (15.6%) patients, after 5 year – in 8 (25.0%). In patients of the II group, a return to the initial state of generalized periodontitis after 3 years was registered in 4 (10.5%) women, and after 5 years – in 6 (15.8%) (Diagram 1).
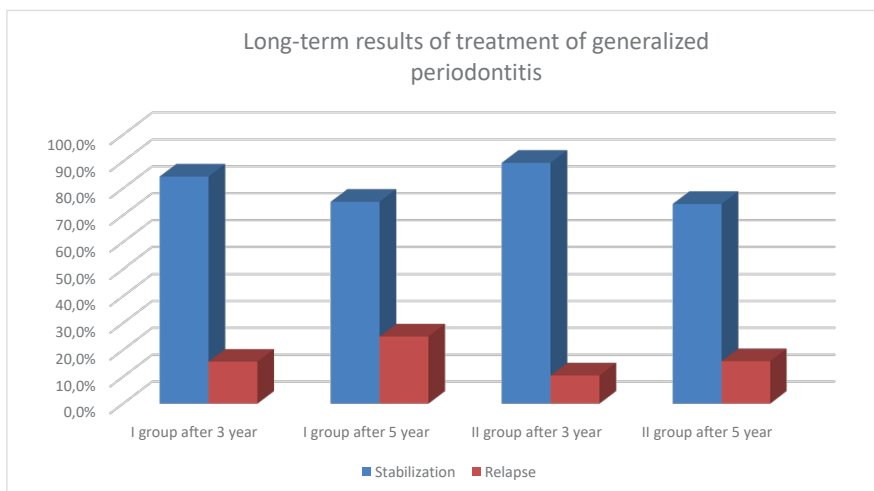
Diagram 1

In all women, clinical and radiological stabilization was accompanied by the absence of any complaints. The mucous membrane along the entire length of the gingival margin on objective examination was pale pink in color, tightly covering the necks of the teeth, painless on palpation and did not bleed. The Schiller-Pysarev test was negative. The index of hygiene, PMA and bleeding were within normal limits. Positive dynamics were also observed in the indicators of the periodontal index. Radiographically, patients with generalized periodontitis did not show a decrease in the height of the interdental alveolar septa in the long term. The bone contours became denser with signs of increased sclerosis, foci of spotted osteoporosis were eliminated, the number of zones of excess calcium deposition along the periphery of bone tissue increased.

The index of the osteoporotic process is the most informative indicator of the effectiveness of the treatment. Thus, after 3 years, in patients of the II group, the indicator of this index decreased to 7.44 ± 0.17 points against 13.64 ± 0.18 before treatment, and after 5 years to 5.11 ± 0.17 points. In women of the I observation group with clinical and radiological stabilization, after 3 years, the indicator of this index was 4.41 ± 0.50 points, and after 5 years, it was 4.55 ± 0.70 points ($p<0.05$). A decrease in the index of osteoporosis activity in the alveolar process in all observation groups, in the long term after the treatment, indicates an increase in the mineralization of the alveolar bone and persistent clinical and radiological stabilization.

During the analysis of bone metabolism markers, it was revealed that the osteocalcin levels after 3 years and 5 years after the treatment in patients of the II group did not change significantly (osteocalcin: after treatment 20.7±1.3 IU g/l, after 3 years – 20.1 ± 1.4 IU g/l, after 5 years – 19.6 ± 1.1 IU g/l), and corresponded to this in the control group (20.9 ± 1.4 IU g/l) (Table 1).

Table 1

Dynamics of markers of bone metabolism (M±m)

Groups	Terms of treatment	Indicators	
		Osteocalcin (MO g/l)	Oxyproline / Cr (mmol/l)
I group (n = 32)	After treatment	20,1±	0,83±
	After 3 years	$18,1 \pm 1,2 \, ^{*}_{**}$	0,53±
	In 5 years	$17,7 \pm 0,8 \, ^{*}_{**}$	0,61±
II group (n = 38)	After treatment	20,7±	2,40±
	After 3 years	20,1±	0,55±
	In 5 years	19,6±	0,70±
Control group (n=20)		20,9±	0,54±

Notes:
1. * 0,05<p – reliability in relation to indicators after treatment;
2. ** 0,05<p – reliability in relation to the persons of the control group;
3. n is the number of patients in the group

In the women of observation group I, in the long term after the treatment, a slight decrease in the level of osteocalcin was observed to 18.1 ± 1.2 IU g/l – after 3 years and to 17.7 ± 0.8 IU g/l after 5 years. At the same time, the study of oxyproline indicators indicates a significant decrease in the bone resorption marker in this contingent of patients after the tested treatment complexes. 3 years after treatment, the index of oxyproline in women of the II group decreased by 3 times, compared to the baseline (0.70 ± 0.02 mmol/l, against 2.40 ± 0.04 mmol/l, p< 0,05), and in the I group by 1.5 times (0.61 ± 0.03 mmol/l, against 0.83 ± 0.03 mmol/l, p< 0,05).

In parallel with the clinical and radiological stabilization of the process in the periodontal tissues, against the background of hypoestrogenemia, the stabilization of indicators and the hormonal background was observed. In the II group of patients who received a combination of hormonal replacement, Calcium – D_3 Nicomed and Fosamax after 3 and 5 years, there was no statistically significant decrease in calcitonin parameters (16.1±0.2 pg/ml and 16.9±0, 4 pg/ml) compared to those immediately after treatment (17.8±0.2 pg/ml), their values were almost equal to those of the control group (18.2±0.7 pg/ml). In the first group (osteotropic therapy Calcium – D_3 Nicomed), calcitonin values were 17.8±0.2 pg/ml after 3 years and 16.9±0.4 pg/ml – after 5 years, which differed somewhat from the control group.

Dynamic monitoring of the parathyroid hormone level in blood serum in women after total ovariectomy suffering from generalized periodontitis revealed that in patients of the II group, 3 years after treatment, the parathyroid hormone level was 16.7±1.5 pg/ml, which did not differ significantly from such indicators after treatment (16.8±1.5 pg/ml), and after 5 years it increased slightly and did not significantly differ from the control (17.4±1.3 pg/ml and 16.9±0.9 pg/ml, respectively, p<0.05). The level of parathyroid hormone in the patients of the first group in the long term after the treatment was 18.9±1.2 pg/ml after 3 years and

18.5±1.6 pg/ml after 5 years, and did not differ significantly from the control (p< 0.05).

3. Conclusions

Treatment of generalized periodontitis in women after total ovariectomy should be based on an etiotropic approach (treatment of the underlying disease) and affect the mechanisms of bone remodeling disorder development. The presented facts indicate how clinically important it is when prescribing complex methods of treating generalized periodontitis in women after ovariectomy to analyze those changes that are caused by endocrine pathology and have pathogenetic significance in the development of osteoporotic changes in the bone structures of the periodontium. The analysis of long-term results of the treatment of generalized periodontitis in women after total ovariectomy confirms the need to distinguish three forms of activity of the osteoporotic process in the bone structures of the periodontium in order to develop individual treatment tactics for each group of patients. For women after total ovariectomy with weakly active foci of osteoporosis in the alveolar bones, monotherapy with osteotropic agents is sufficient. If there are moderately active and active foci of osteoporosis in the bone structures of the periodontium, it is more appropriate to prescribe osteotropic and antiresorptive agents in combination with drugs that normalize the hormonal background. Such drugs include Calcium – D_3 Nikomed, Fosamax and Progynova.

References

1. Gorb-Gavrylchenko I.V. (2002) Aktyvnist osteoporozu kistkovoi tkanyny parodontazhinok z hipoestrohenemiieiu, khvorykh na heneralizovanyi parodontyt [Osteoporosis activity of periodontal bone tissue in women with hypoestrogenemia, patients with generalized periodontitis]. Novyny stomatolohii, № 1 (30). P. 58–59. [in Ukrainian]
2. Mazur I.P. (2004) Vzaiemozviazok tkanyn parodontu, pepebihy heneralizovanoho parodontytu ta strukturno-funktsionalnoho stanu kistkovoi systemy [Interrelationship of periodontal tissues, the course of generalized periodontitis and the structural and functional state of the bone system]. Problemy osteolohii. № 1. P. 44-49. [in Ukrainian]
3. Mashchenko I.S. Gorb-Gavrylchenko I.V. (2005) Effektyvnost prymenenyia osteotropnoi y zamestytelnoi hormonalnoi terapyy u zhenshchyn posle totalnoi ovaryoэktomyy, stradaiushchykh heneralyzovannыm parodontytom, v zavysymosty ot aktyvnosty osteoporoznoho protsessa v kostnыkh strukturakh parodonta. [The effectiveness of the use of osteotropic and hormone replacement therapy in women after total ovariectomy suffering from generalized periodontitis, depending on the activity of the osteoporotic process in the bone structures of the periodontium] Visnyk stomatolohii. № 3 (48). P. 26–29. [in Ukrainian]
4. Mashchenko I.S. Samoilenko A.V. (2002) Indeksnaia otsenka osteoporoznoho protsessa v alveoliarnom otrostke bolnыkh heneralyzovannыm parodontytom. [Index assessment of the osteoporotic process in the alveolar process of patients with generalized periodontitis]. Visn. stomatolohii. № 2. P. 8–10. [in Ukrainian]
5. Civitelli R, Ziambaras K. (2011) Calcium and phosphate homeostasis: concerted interplay of new regulators. J Endocrinol Invest.34:3–7.
6. Leder B.Z. (2020) Wein MN, editors. Osteoporosis: Pathophysiology and Clinical Management. Cham. Switzerland: Humana Press. 516 p.

RISK FACTORS FOR THE NEGATIVE COURSE OF GASTRODUODENAL GASTROINTESTINAL BLEEDING IN OBESE PATIENTS

Andrian Reiti

Candidate of Medical Sciences, Assistant Professor, P. L. Shupyk National Healthcare University, Ukraine
e-mail: a.reyti@gmail.com, orcid.org/0000-0002-1807-2470

Oleksandr Shcherbina

Director, Communal Non-Commercial Enterprise "Kyiv City Clinical Hospital № 7", Ukraine
e-mail: KMKLLIKSRNYA7@gmail.com, orcid.org/0009-0000-9991-7588

Summary

Obesity affects 18% of adults in Ukraine, which is one of the highest rates on the European continent. Treating gastrointestinal ulcer bleeding in obese patients is challenging due to 75% of them are taking at list one ulcerogenic or blood-thinning medications, and 25% use three or more because comorbidities. The problem of treating and predicting the outcomes of ulcerative bleeding in such patients is insufficiently studied.

This study aimed to assess treatment outcomes for acute ulcerative bleeding in sever obese patients, evaluate the effects of age and medication use, and compare these with outcomes in normal-weight patients.

To achieve this goal, a retrospective analysis included 82 sever obese and 282 normal-weight patients, focusing on early recurrences and mortality.

The study found that in obese patients under the age of 40, the mortality rate was more than three times higher (7.3%) compared to patients of normal weight (2.1%) (p – 0.0296). However, after the age of 40, no statistically significant difference in mortality was confirmed between the study groups (8.5% and 4.9%, respectively, p- 0.2864). Additionally, no increased risk of early rebleeding was observed in patients using non steroid anti inflammatory drugs or and/or drugs, affecting the rheological or coagulation properties of the blood (12.2% vs. 5%, p = 0.2527).

Thus, based on the obtained data, in Ukraine young age and obesity are risk factors for poor prognosis in treating gastrointestinal bleeding due to limited use of medications for comorbidities and resulting homeostasis issues. Despite this, they do not increase early rebleeding. The study suggests revising treatment strategies for young obese patients.

Key words: peptic ulcer disease, obesity, gastrointestinal bleeding.

1. Introduction

The prevalence of obesity among the adult population in Ukraine is 18%, one of the highest rates in Europe. Treating patients with both gastrointestinal ulcer bleeding and obesity presents challenges, as by adulthood, 75% of these patients take at least one ulcerogenic

or blood-thinning medication, and 25% use three or more due to obesity-related conditions. The management and outcomes of ulcerative bleeding in such patients remain underexplored.

In Ukraine, the prevalence of obesity continues to rise, reaching 18% among adults and 8.7% among children by 2018 *(Biales, I. 2017), (Hu, 2009)*. The situation is further complicated by the fact that around 70% of such patients regularly take either nonsteroidal anti-inflammatory drugs (NSAIDs) or medications that affect blood coagulation (antiplatelet agents) to treat comorbid conditions caused by obesity *(Hu, 2009), (Lushchak, 2023)*. This, in turn, initiates the development of ulcerative bleeding, increases the risk of recurrence *(Lushchak, 2023)*, *(Peifer, S., 2020),* and impacts mortality rates *(Phelps, 2024, March 16), (Ren, Q., 2022)*. The exact frequency of ulcerative bleeding among obese patients in Ukraine is not well-documented, nor are there any specific data on mortality rates due to bleeding in obese patients.

The aim of the study is to evaluate the outcomes of combined treatment of acute ulcerative bleeding in obese patients, analyze the impact of age and the use of oral non-steroidal anti-inflammatory drugs, anticoagulants, and antiplatelet agents on the unfavorable course of the disease, and compare the treatment outcomes of obese patients with those of patients of normal weight.

A retrospective comparative analysis of clinical data on the treatment outcomes of early recurrences and mortality from gastrointestinal bleeding was conducted in 82 patients with morbid obesity and 282 patients with normal weight.

Objective. To evaluate treatment outcomes and identify negative prognostic factors for fatal outcomes in peptic and acute stress ulcer bleeding in obese patients. Additionally, to compare the obtained data with the treatment results of patients with normal weight.

2. Materials and Methods

The treatment data of 364 patients with gastric and duodenal ulcer bleeding, who were treated at the Department of Minimally Invasive Surgery at Kyiv City Clinical Hospital No. 7 (Kyiv City State Administration) and the Kyiv Regional Clinical Hospital No. 1 (Kyiv Regional Health Administration) from 2015 to 2023, were analyzed. The relationship between age and the use of medications for treating comorbidities associated with obesity, as well as the frequency of bleeding, recurrences, and mortality, was evaluated. Based on body mass index (BMI), the patients were divided into two groups: a control group with a BMI ≤ 25 kg/m² – 282 patients, and a study group – 82 patients with a BMI ≥ 30 kg/m². Both groups were further divided into six age categories: 18-29 years, 30-39 years, 40-49 years, 50-59 years, 60-69 years, and a group of patients aged 70 years and older.

The effect of the use of oral NSAIDs (nimesulide, ibuprofen) and/or medications affecting blood coagulation or rheology (acetylsalicylic acid, clopidogrel) on treatment outcomes was also assessed. NSAID and/or antiplatelet use was observed in 101 patients (35.8%) in the control group and 49 patients (59.7%) in the study group (p = 0.0001).

Inclusion Criteria: Peptic ulcer disease complicated by bleeding (Forrest I or II), acute and stress ulcers complicated by active bleeding.

Exclusion Criteria: Gastric cancer, bleeding GIST tumors, bleeding from esophageal varices, Mallory-Weiss syndrome, and Dieulafoy's ulcers, BMI between 25 and 30 kg/m² (overweight).

The patients provided written informed consent to participate in the study, which was approved by the Bioethics Committee of the National Health University of Ukraine named after P. L. Shupyk. Norms of the "WMA Declaration of Helsinki" – paragraphs 7. 10. 12, 13, Medical

research is subject to ethical standards that promote and ensure respect for all human subjects and protect health and their rights.

Data processing. For statistical analysis, the free application GraphPad was used. Categorical data were calculated using Fisher's exact test, and continuous data using the t-test. A p-value of less than 0.05 was considered statistically significant.

3. Research Results

Among patients without obesity, the average age was 59.8 years, with a median of 62 years, while in the group of individuals with obesity, the average age was 46.5 years, with a median of 44 years. Accordingly, bleeding in patients with obesity occurs, on average, 16 years earlier. (Table 1).

Table 1

Distribution of Peptic Gastrointestinal Bleeding by Age Groups.

Age	Control Group 282		Study Group 82	
	BMI ≤ 25 kg/м² n (%)		BMI ≥ 30 kg/м² n (%)	
	181 (64,2%)	101 (35,8%) + NSAIDs/ACMs	33 (40,2%)	49 (59,8%) + NSAIDs/ACMs
≤ 29	20 (11%)	10 (9,9%)#	2 (6,1%)	10 (20,4%)#
30-39	32 (17,7%)	17 (16,8%)#	4 (12,1%)	16 (32,7%)#
40-49	42 (23,2%)	14 (14,1%)	9 (27,3%)#	12 (24,5%)
50-59	49 (27,1%)	25 (25,3%)	9 (27,3%)	5 (10,2%)
60-69	33 (18,2%)	28 (28,3%)#	8 (24,2%)#	5 (10,2%)
≥70	5 (2,8%)	7 (6,6%)	1 (3%)	1 (2%)

\# – statistically significant difference (p≤0.05) compared to the group not taking medications.

In the group of patients aged 18 to 39 with obesity and NSAIDs/antiplatelet therapy, the number of bleeding episodes was 26 cases (53%), while in the group with normal weight and NSAIDs/antiplatelet therapy, it was 27 cases (26.7%) (p = 0.003). In other age categories, the differences were not statistically significant.

The overall rate of recurrent bleeding was not statistically different, with 12.2% in the study group and 5% in the control group (p = 0.2564). The use of NSAIDs and/or antiplatelet agents in both groups did not influence early bleeding recurrence, with 14.3% versus 6.9% (p = 0.291) and 6.9% versus 3.8%, respectively (p = 0.4236).

Overall mortality was higher in the obesity group at 7.3%, compared to 2.1% in the normal weight group (p = 0.02). The use of NSAIDs and/or antiplatelet agents affected mortality rates, with 10% in the obesity group and 1.9% in the normal weight group (p = 0.04). In the subgroups without NSAID and/or antiplatelet use, the rates were 3% and 2.2%, respectively (p = 0.3922).

Thus, the use of medications for the treatment of comorbid conditions does not increase the risk of early recurrent bleeding but does increase the risk of fatal outcomes in patients with obesity. An important aspect of the study is that mortality in the normal weight group was accompanied by early recurrent bleeding in all cases, while no such trend was observed in the obesity group. This can be explained by the acute decompensation of comorbid conditions and the lack of compensatory resistance in the affected systems.

Table 2

Indicators of Recurrent Bleeding and Mortality among Study Groups.

Age	Control Group (N = 282) BMI ≤ 25 kg/м² n (%)				Study Group (N = 82) BMI ≥ 30 kg/м² n (%)			
	n (181)		n (101) NSAIDs/ACMs		n (33)		n (49) NSAIDs/ACMs	
	Recurrent Bleeding	Mortality	Recurrent Bleeding	Mortality	Recurrent Bleeding	Mortality	Recurrent Bleeding	Mortality
≤ 29	0 (0,6%)	0	1(1%)	0	0	0	2(4,1%)	1(2%)
30-39	1 (0,6%)	0	0(0%)	0	1(1,9%)	1(3%)	3(6,1%)	1(2%)
40-49	0	1(0,6%)	1(1%)	0	2(5,1%)	0	1(2%)	1(2%)
50-59	3(1,7%)	0	2(2%)	0	0	0	1(2%)	0
60-69	2(1,3%)	1(0,6%)	2(2%)	2(2%)	0	0	0	2(4%)
≥ 70	1(0,6%)	2(1,1%)	1(1%)	0	0	0	0	0
Total	7(3,8%)	4(2,2%)	7(6,9%)	2(1,9%)[#]	3(9,1%)	1 (3%)	7(14,3%)	5(10%)[#]

$\# - p \leq 0,05$

$+ -$ NSAIDs/ACMs

4. Discussion

The mortality rate due to gastroduodenal bleeding caused by peptic ulcer disease, despite the progress made in medical treatment over the past three decades, has remained largely unchanged and still ranges between 6-12% *(Ren, Q., 2022)*.

The multifactorial nature of this condition is partly due to the proven association between obesity and peptic ulcer disease *(van Lerdam, M. E. 2008)*, which contradicts the common notion that "a good mill grinds well," implying that for seamless nutrient translocation, leading to weight gain, the digestive organs must remain uncompromised. However, the situation is significantly complicated by comorbidities caused by obesity (musculoskeletal and cardiovascular diseases), which often require the use of nonsteroidal anti-inflammatory drugs (NSAIDs) or medications that affect blood rheology and coagulation. Considering that 70% of obese patients take at least one of these medications, and 25% use three or more, such patients should be preemptively classified as being at high risk of mortality. Our study confirmed, at the local level, the validity of the hypothesis that patients with peptic gastrointestinal bleeding combined with obesity have a higher mortality rate.

Another factor, unfortunately perceived by many physicians as a positive prognostic indicator, is young age. The logic of predicting better outcomes in younger patients, due to a supposedly more stable homeostasis and therefore lower mortality risk, does not hold true. Unfortunately, reality shows the opposite: young patients often lack well-developed adaptive mechanisms, and the reactivity of their systems plays a negative role when it comes to sudden homeostatic changes caused by bleeding. Therefore, not only obesity but also the patient's age plays a critical role.

Thus, in patients with active peptic bleeding, young age, combined with obesity and the use of NSAIDs and/or antiplatelet agents, is a potential risk factor for fatal outcomes and requires earlier application of both therapeutic (urgent endoscopy) and surgical methods for long-term bleeding control (suturing, resection, etc.). In cases where the ulcer is located in the antral or pyloric region, bariatric bypass surgery may be considered for treating both the bleeding and the underlying obesity.

The small sample size and the limitations in patient selection in this retrospective study call for further analysis of this issue.

5. Conclusions

1. In obese patients under the age of 40, ulcerative gastrointestinal bleeding associated with the use of oral anti-inflammatory drugs or medications affecting blood rheology or coagulation is a risk factor for a fatal outcome compared to patients of normal weight (7.3% and 2.1%, respectively, p- 0.2864).

2. The incidence of early recurrent bleeding does not differ across age groups.

3. The use of non-steroidal anti-inflammatory drugs, oral anticoagulants, and antiplatelet agents is not a risk factor and does not increase the incidence of early recurrent bleeding.

References

1. Biales, I. (2017). Recent Advances in the Treatment of Ulcer Bleeding. F1000Res, 6, 1763. http://doi:10.12688/f1000research.11286.1.

2. Hu, D. P., Zhang, W., Bansback, N., et al. (2009). Prevalence of comorbidities associated with obesity and overweight: A systematic review and meta-analysis. BMC Public Health, 9, 88. http://doi:10.1186/1471-2458-9-88.

3. Lushchak, V. I., Kovasa, M., Abrat, O. B., Mykytyn, T. V., Tverdokhlib, I. Z., Strey, K. B., & Semchyshyn, H. R. (2023, September 25). Risks of obesity and diabetes development in the population of Ivano-Frankivsk region of Ukraine. EXCLI Journal, 22, 1047-1054. http://doi:10.17179/excli2023-6296.

4. Peifer, S., Pelton, M., Kini, L., Kwon, Y. G., Ofosu-Okromah, R., Acharya, Y., Chinchilli, V. M., Soybel, D. I., Oh, J. S., & Sentongo, P. (2020, February 17). Risk factors for perioperative mortality from complicated peptic ulcer disease in Africa: A systematic review and meta-analysis. BMJ Open Gastroenterol, 7(1), e000350. http://doi:10.1136/bmjgast-2019-000350.

5. Phelps, N. H., et al. (2024, March 16). Worldwide trends in underweight and obesity from 1990 to 2022: A pooled analysis of 3663 population-representative studies with 222 million children, adolescents, and adults. The Lancet, 403(10431), 1027-1050. http://doi:10.1016/S0140-6736(23)02750-2.

6. Ren, Q., Peng, K., Li, B., Zheng, Y., Guo, Q., Ji, R., Chen, Z., Wang, Y., & Zhou, Y. (2022). Obesity, peptic ulcer disease and metabolic status in the Wuwei Cohort of northwest China: A cross-sectional study. Asia Pac J Clin Nutr, 31(2), 294-304. http://doi:10.6133/apjcn.202206_31(2).0015. PMID: 35766565.

7. van Lerdam, M. E. (2008). Epidemiology of Upper Gastrointestinal Bleeding. Best Pract Res Clin Gastroenterol, 22(2), 209-224. http://doi:10.1016/j.bpg.2007.10.011.

8. Yaratakha, K., Talemal, L., Monaghan, B. V., Yu, D., Lu, H., & Poggio, J. (2023, December 29). Seasonal and geographical variations in peptic ulcer disease and related complications in the United States of America. J Res Health Sci, 23(4), e00595. http://doi:10.34172/jrhs.2023.130.

9. Yakovenko, V., Henn, L., Bettendorf, M., Zelinska, N., Solovyiova, H., Hofmann, H. F., & Gruhlih-Henn, Y. (2019, September 3). Risk factors for overweight and obesity in children in Ukraine and Germany. J Clin Res Pediatr Endocrinol, 11(3), 247-252. http://doi:10.4274/jcrpe.galenos.2019.2018.0157.

10. Ye, Z., Reyntjens-Blaser, A., & Lytvyn, L., et al. (2020, January 6). Clinical Guidelines for the Prevention of Gastrointestinal Bleeding in Critically Ill Patients. BMJ, 368, l6722. http://doi:10.1136/bmj.l6722. PMID: 31907223.

TECHNOLOGY, CREATIVITY, IMPLEMENTATION

**DIFFERENTIAL METHOD FOR ASSESSING THE EVENNESS
OF THE ROAD SURFACE OF THE STREET
AND ROAD NETWORK BY THE IRI INDEX**

Taras Moroz
Postgraduate Student, National Transport University,
Head of the Testing Center of the Road Scientific and Technical Center, Ukraine
e-mail: carmen_17@ukr.net, orcid.org/0000-0001-8166-6389

Summary
The article investigates the use of the IRI index to assess the condition of the pavement of streets of different types within a settlement: main city and district roads, residential and industrial. The possibility of applying a differential system for assessing the evenness of the road surface is considered, which makes it possible to more accurately determine its condition in five gradations – from excellent to critical. Based on the results, a map of the district was built, which clearly demonstrates the distribution of the technical condition of its street and road network. This allowed us to identify problem areas, which will make it easier to optimize the planning of repair work and ensure efficient use of resources. The research provides a more comprehensive understanding of the factors contributing to pavement deterioration. Further-more, the use of modern technologies, such as GIS systems and remote sensing data, facilitated the development of a dynamic model for monitoring road conditions in real-time.
Key words: pavement management systems, highway operations, structural and func-tional prediction of roads, pavement condition

1. Introduction

The street and road network of the settlement is an important component of the urban infrastructure, which ensures transport connections, population mobility and economic activity. Its effective functioning depends on the condition of the road surface, which affects traffic safety, ease of movement and the duration of road operation. Regular monitoring and assessment of road conditions is key to maintaining them in good condition and timely maintenance.

One of the main indicators used to evaluate the quality of the road surface is the IRI (International Roughness Index), which allows you to determine the smoothness of the road and assess its impact on the comfort of drivers. However, traditional evaluation approaches are often limited to general categories of "good" or "bad", which do not take into account the degree of difference between individual road sections.

This article is aimed at improving the process of assessing the state of the street and road network of a settlement by implementing a differential assessment system based on IRI. This made it possible to analyze in more detail the technical condition of the road surface on streets of various types, to identify problem areas that need repair.

2. Theoretical part

In settlements, in accordance with *(DSTU 3587, 2022: 3)*, which regulates the requirements for the operational condition of highways under the conditions of ensuring road safety, there are no requirements for the uniformity of the road surface according to the IRI index for main streets of city, district importance and residential streets, and they are extended only to main roads (the maximum value should not exceed 3.1 m/km). According to *(DBN V.2.3-5, 2018: 2)*, such norms are available only for the capital type of road clothing on trunk roads of continuous traffic and its value should not exceed 2.0 m/km. This approach to determining the technical condition of the road surface makes it possible to apply only *the binary evaluation method*, comparing the measured IRI value with the requirement of the regulatory document. As a result of such an assessment, only two variants of the conclusion about the condition of the road surface of the highway type street are possible: "meets the requirements of the regulatory document" and "does not meet the requirements of the regulatory document", i.e. "satisfactory" or "unsatisfactory" (Fig. 1).
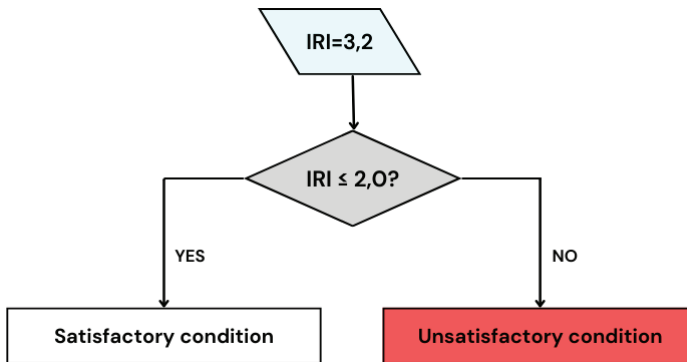
**Figure 1 Algorithm of binary assessment of the technical condition
of the road surface of the main street of continuous traffic**

In addition, it is impossible to assess the state of the road surface of other types of streets, except for main roads.

The disadvantage of such an assessment is its limitation. It does not allow for gradations or degrees of difference between evaluated options, providing only two possible outcomes. The use of such an assessment method has a number of disadvantages:

1. Loss of nuance: Binary output cannot capture intermediate levels or degrees, which is important for more accurate evaluation.

2. Insufficient detail: With such an assessment, it is difficult to reflect more complex phenomena or differences between roads, which may lead to a simplification of the real situation, but does not provide sufficient detail.

Example: as a result of the evaluation of 2 roads, the average values of equality according to the IRI index were obtained:

Table 1

An example of an incorrect assessment of the state of the road surface

Road	IRI	Condition
Road A	3,2 m/km	Unsatisfactory
Road B	7,7 m/km	Unsatisfactory

1. **Road A**: has some minor defects, such as small cracks, peeling, but is generally in good condition.

2. **Road B**: has significant defects, such as potholes, deep ruts, which significantly affect the comfort and safety of traffic.

According to the binary method, both roads will be classified as "unsatisfactory" because they do not meet the criteria specified in the regulatory documents. However, this approach does not allow taking into account the difference in the condition of roads A and B. This leads to:

• **Lack of prioritization:** Road A needs less repair than Road B, but the binary method does not allow this conclusion. As a result, roads with different levels of damage may receive the same priority for repair, which can be inefficient in terms of resource utilization.

• **Incomplete picture:** operational services do not get a complete picture of the state of the roads. They cannot understand how problematic each of the roads is and what specific actions should be taken to improve them.

• Limitations in decision-making: In some cases, when several factors or criteria need to be considered, a binary approach may be too simplistic and will not provide enough information for an informed decision.

Thus, the binary road evaluation method leads to insufficient detail, which can negatively affect decision-making regarding road repair and maintenance and resource allocation. Because of these disadvantages, binary scoring is less suitable in situations where multivariate evaluation or analysis of complex situations is required. In such cases, using a scale that provides more gradations allows you to get a more accurate and detailed assessment.

Instead, it is proposed to use a differential method of assessing the evenness of the road surface according to the IRI according to the scale of technical conditions "excellent", "good", "satisfactory", "unsatisfactory" and "critical", taking into account the type of street. The limit values of such a scale are given in the table 2.

Table 2

Limit values of IRI for assessing the condition of the streets of populated areas

| Type of street	Condition				
	Excellent	Good	Satisfactory	Unsatisfactory	Critical
Main streets of urban significance	IRI < 1,5	$1,5 \leq IRI < 3,0$	$3,0 \leq IRI < 4,5$	$4,5 \leq IRI < 6,0$	IRI ≥ 6,0
Main streets of regional significance	IRI < 2,0	$2,0 \leq IRI < 4,0$	$4,0 \leq IRI < 5,5$	$5,5 \leq IRI < 7,0$	IRI ≥ 7,0

Continuation of table 1

Residential streets	IRI < 2,5	$2,5 \leq IRI < 4,5$	$4,5 \leq IRI < 6,0$	$6,0 \leq IRI < 7,5$	$IRI \geq 7,5$
Industrial streets	IRI < 3,0	$3,0 \leq IRI < 5,0$	$5,0 \leq IRI < 7,0$	$7,0 \leq IRI < 8,0$	$IRI \geq 8,0$

The given data take into account the specifics and functional purpose of each type of street. They reflect general international approaches and world experience in assessing the state of the road surface in city conditions.

• **Main streets of urban importance** are the main transport arteries of the city, which provide the highest level of capacity and are associated with the most intense traffic.

• **Main streets of regional significance** are important streets within districts that also have a significant traffic load, but less than city arterials.

• **Residential streets** are streets located in residential areas with less traffic and more pedestrians.

• **Industrial streets** provide access to industrial zones; they may have a higher allowable IRI level due to higher loads and specific uses.

To determine the technical condition of the road surface using the differential method, an iterative approach is used, which consists in step-by-step determination of the range within which the determined IRI value is located (Fig. 2).
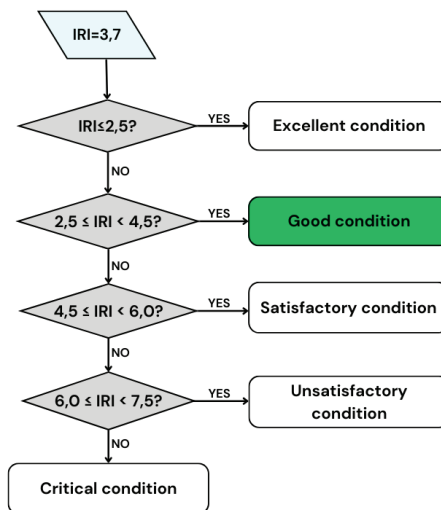
Figure 2 Algorithm of differential assessment of the technical condition of the road surface of a residential street

3. Experimental part

Data collection

As part of the research, a survey of the street and road network of the Troyeschyna housing estate in the Desnianskyi District of Kyiv was carried out. During the survey, the

IRI was determined in forward and reverse directions on 26 streets, of which 2 streets of the main type of urban significance, 4 streets of the main type of district significance, 16 streets of residential type of district significance and 4 streets of industrial type (Table 3)

The IRI was determined using a smartphone accelerometer and the RoadLab PRO software complex. During the survey, the vehicle's trajectory is plotted on an interactive map and divided into sections, the average length of which is 110 m, and a KML (Keyhole Markup Language) format file is created, which allows you to record GPS coordinates and to bind of the IRI. to specific sections of the road.

Table 3

Classification of the studied streets

Type of street	List of streets
Main streets of urban significance	R. Shukhevycha Ave. R. Reagan Str.
Main streets of regional significance	Chervonoi Kalyny Ave. M. Zakrevskyi Str. H. de Balzac Str. Myloslavska Str.
Residential streets	Budyschanska Str. K. Dan'kevycha Str. V. Vysots'kogo Blvd. O. Ekster Str. Hradynska Str. O. Kurinnoho Str. Desnyans'ka Str. S. Lyfarya Str. Kashtanova Str. V. Beretti Str M. Lavrukhina Str. L. Bykova Blvd. Liskivska Str. Arkh. Nikolajeva Str. Radosynska Str. Radunska Str.
Industrial streets	Pukhivska Str. Elektrotekhnichna Str. Melyoratyvna Str. Kraynya Str.

This approach provides detailed cartographic visualization of research results, which greatly simplifies further analysis and planning of repair works. As a result of the survey, the IRI was determined for 851 segments, and the total length of the surveyed roads was 93.4 km.

Data visualization

After data collection, the resulting KML files were processed in Google Earth and Data Analyst OpenAI services. They were cleaned of false values, organized and analyzed, and the affiliation of each segment of the street on which it was measured was determined. This made it possible to visualize the collected GPS coordinates and accurately determine the condition of the road surface for each segment. After that, the data were integrated into maps showing the technical condition of roads according to the IRI. This approach not only made it possible to identify the most problematic areas, but also provided the possibility of further analysis and planning of repair works based on the obtained results. The obtained information became the basis for a detailed analysis of the distribution of the technical condition of the road network of the settlement.
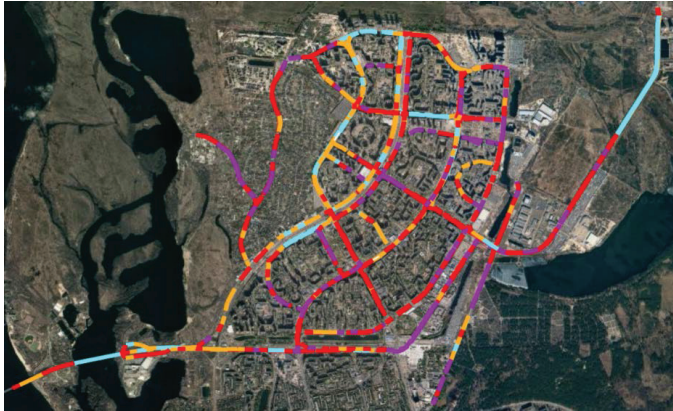
**Figure 3 Cartogram of IRI values, Troyeshchyna, Desnyansky district, Kyiv,
as of September 2024, built by the RoadLab Pro software complex
and processed in Google Earth**

As a result of the survey, the IRI was determined for 851 sections, which allowed to obtain accurate data on the technical condition of each section of the road. Fixing the GPS coordinates of each segment of the street made it possible to clearly determine the geolocation of the segments of the street-road network and tie the results of the analysis to specific areas. This provides a reliable information base for further research and monitoring of the condition of roads in real conditions of urban infrastructure, in particular, allowing to compare different sections by their location and condition of the surface. As a result of this approach, it became possible to accurately match each segment of the road with its actual location, which ensures high accuracy in identifying problem areas. Thanks to the use of geolocation data, it is easy to determine in which parts of the district the condition of the road surface is the worst. On the basis of the analysis, a detailed summary table was created, which contains information about the types of investigated streets, the length of the investigated areas, and the assessment of the technical condition based on the average values of the IRI (Table 4).
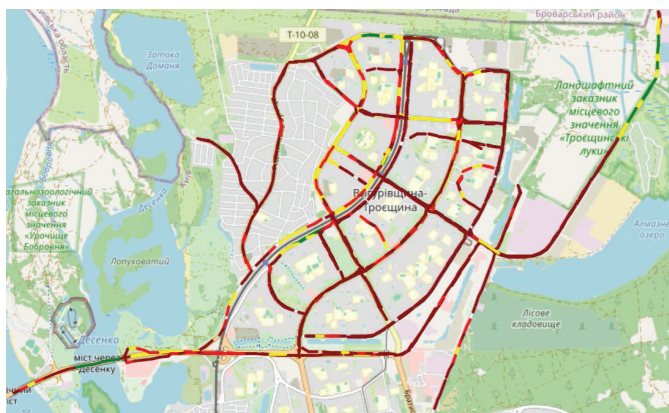
Figure 4 Cartogram of IRI values processed in Data Analyst OpenAI

Since the streets have a considerable length and consist of sections repaired in different periods, using different materials and with different technical characteristics and, accordingly, have a different technical condition, diagrams were additionally constructed (Fig. 5-8) showing the distribution of these sections by values IRI. In the table 5 and the histogram of technical condition (Fig. 9) shows data on the length and share of sections of all technical conditions from excellent to critical for each street.
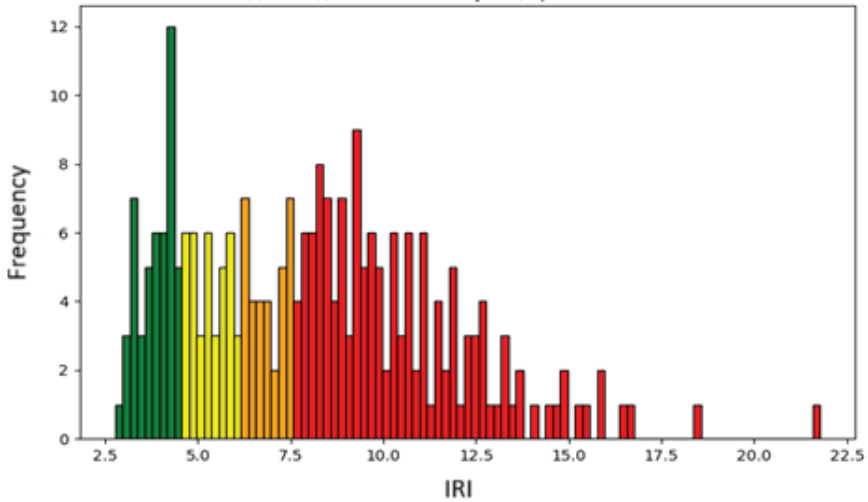
Figures 5 IRI distribution graph for residential streets
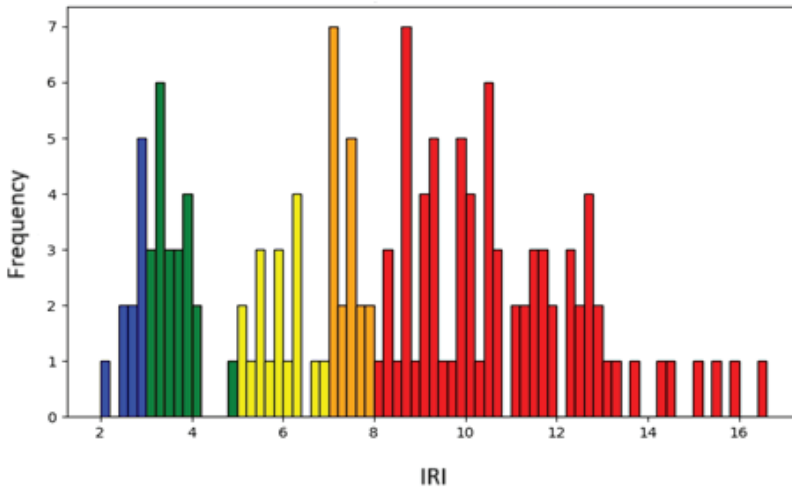
Figures 6 IRI distribution graph for industrial streets
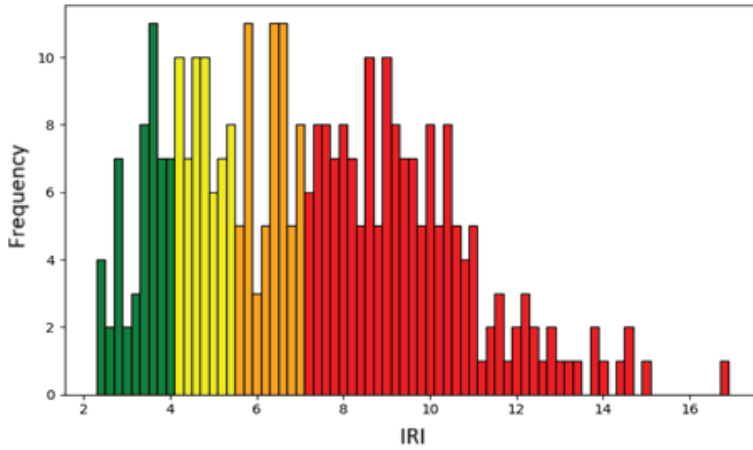
Figures 7 IRI distribution graph for main streets of regional significance
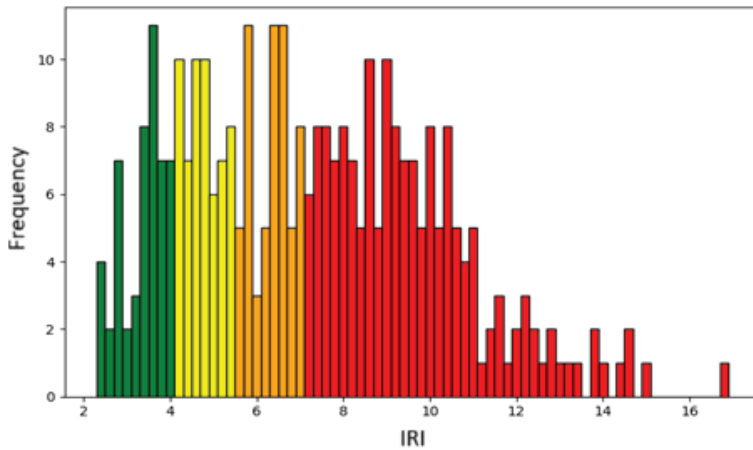
Figures 8 IRI distribution graph for Main streets of urban significance

4. Conclusions

The application of the IRI differential evaluation system significantly improved the quality of the analysis of the state of the street and road network within the settlement. Instead of simplified approaches, a more accurate system was proposed, which provides an opportunity to better understand which sections of roads need urgent repair, and which can be included in the plan of preventive works. Based on the results, a cartogram and graphs of IRI distribution were built, which clearly demonstrate the distribution of the condition of roads, which makes it possible to ensure the effective use of resources through optimal planning of repair works.

Table 4

Summary table of the results of the determination of equality according to the IRI indicator of the street and road network of Troyeschyna in Desnyanskyi district of Kyiv

№	Street	Number segments	Total length segments, m	Average IRI value, m/km	Minimal IRI value, m/km	Maximum IRI value, m/km	Mode of IRI values, m/km	Median values IRI, m/km	Condition according to the average value of IRI
1	R. Shukhevycha Ave.	75	8268	6,15	2,29	12,35	4,46	6,04	Critical
2	R. Reagan Str.	43	4785	6,38	3,17	11,01	3,17	6,39	Critical
3	Chervonoi Kalyny Ave.	84	9484	7,43	3,07	13,43	4,06	6,95	Critical
4	M. Zakrevskyi Str.	74	7922	9,07	4,24	16,72	8,55	8,94	Critical
5	H. de Balzac Str.	124	13598	6,18	2,30	14,59	9,48	5,59	Unsatisfactory
6	Myloslavska Str.	50	5464	6,78	2,34	15,07	2,34	6,46	Unsatisfactory
7	Budyschanska Str.	3	319	11,72	8,32	14,96	8,32	11,87	Critical
8	V. Vysots'kogo Blvd.	8	834	7,35	4,15	15,79	4,15	6,28	Unsatisfactory
9	Hradyns'ka Str.	10	1058	7,56	4,19	10,59	4,19	8,01	Critical
10	Desnyans'ka Str.	24	2582	10,67	7,56	15,86	7,56	10,87	Critical
11	Kashtanova Str.	14	1550	10,65	4,78	18,40	4,78	10,69	Critical
12	M. Lavrukhina Str.	7	727	7,55	3,00	11,95	3,00	6,79	Critical
13	Liskivs'ka Str.	22	2527	7,23	4,19	11,50	4,19	7,13	Unsatisfactory
14	Radosyns'ka Str.	33	3566	8,72	5,92	12,18	8,70	8,69	Critical
15	K. Dan'kevycha Str.	12	1321	11,41	7,24	14,81	7,24	11,38	Critical
16	O. Ekster Str.	19	2101	6,99	3,26	15,42	3,26	4,65	Unsatisfactory

Continuation of table 4

									Unsatisfactory
17	O. Kurinnoho Str.	14	1503	7,38	4,93	12,64	4,93	6,42	Unsatisfactory
18	S. Lyfarya Str.	34	3780	9,04	3,91	16,77	3,91	8,87	Critical
19	V. Beretti Str	9	989	4,82	3,19	6,93	3,19	4,65	Satisfactory
20	L. Bykova Blvd.	5	541	4,88	4,23	5,78	4,23	4,73	Satisfactory
21	Arkh. Nikolajeva Str.	10	1210	11,40	7,21	21,75	7,21	10,03	Critical
22	Raduns'ka Str.	34	3684	6,77	4,27	4,31	4,39	2,77	Good
23	Pukhivska Str.	76	8231	6,65	2,00	12,70	3,09	7,12	Satisfactory
24	Elektrotekhnichna Str.	30	3365	10,71	5,98	15,50	11,71	10,88	Critical
25	Melyoratyvna Str.	17	1868	8,06	5,00	14,58	5,00	7,51	Critical
26	Kraynya Str.	20	2102	10,11	3,92	16,50	3,92	10,64	Critical

Table 5

Distribution of the condition of the road pavement and the length of sections along the streets

Street	Excellent		Good		Satisfactory		Unsatisfactory		Critical	
	1*	2**	1	2	1	2	1	2	1	2
1	2	3	4	5	6	7	8	9	10	11
Main streets of urban significance										
R. Shukhevycha	0	0,0%	628	7,6%	1527	18,5%	1889	22,8%	4224	51,1%
R. Reagan	0	0,0%	0	0,0%	1296	27,1%	803	16,8%	2686	56,1%
Main streets of regional significance										
Chervonoi Kalyny	0	0,0%	561	6,0%	1997	21,4%	2346	25,1%	4431	47,5%
M. Zakrevskyi	0	0,0%	0	0,0%	215	2,7%	1089	13,7%	6618	83,5%
H. de Balzac	0	0,0%	3313	24,4%	3421	25,2%	2358	17,3%	4506	33,1%
Myloslavska Str.	0	0,0%	1084	19,8%	1197	21,9%	711	13,0%	2472	45,2%
Industrial streets										
Pukhivska	1136	13,6%	2172	26,0%	769	9,2%	870	10,4%	3397	40,7%
Elektrotekhnichna	0	0,0%	0	0,0%	217	6,4%	384	11,4%	2764	82,1%
Melyoratyvna	0	0,0%	0	0,0%	560	30,0%	765	41,0%	543	29,1%
Kraynya	0	0,0%	101	4,8%	515	24,5%	0	0,0%	1486	70,7%
Residential streets										
V. Beretti	0	0,0%	334	33,8%	443	44,8%	212	21,4%	0	0,0%
L. Bykova	0	0,0%	219	40,5%	322	59,5%	0	0,0%	0	0,0%
Budyschanska	0	0,0%	0	0,0%	0	0,0%	0	0,0%	319	100,0%
V. Vysots'kogo	0	0,0%	208	24,9%	108	12,9%	213	25,5%	305	36,6%
Hradyns'ka	0	0,0%	215	20,3%	107	10,1%	104	9,8%	632	59,7%
K. Dan'kevycha	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1321	100,0%
Desnyans'ka	0	0,0%	0	0,0%	0	0,0%	0	0,0%	2582	100,0%
O. Ekster	0	0,0%	1004	47,8%	112	5,3%	104	5,0%	881	41,9%
Kashtanova	0	0,0%	0	0,0%	328	21,2%	108	7,0%	1114	71,9%
O. Kurinnoho	0	0,0%	0	0,0%	452	30,1%	518	34,5%	533	35,5%
M. Lavrukhina	0	0,0%	316	43,5%	0	0,0%	104	14,3%	307	42,2%
S. Lyfarya	0	0,0%	335	8,9%	151	4,0%	416	11,0%	2878	76,1%
Liskivs'ka	0	0,0%	108	4,3%	716	28,3%	641	25,4%	1062	42,0%

Continuation of table 5

Arkh. Nikolajeva	0	0,0%	0	0,0%	0	0,0%	113	9,3%	1097	90,7%
Radosyns'ka	0	0,0%	0	0,0%	115	3,2%	870	24,4%	2581	72,4%
Raduns'ka	0	0,0%	2266	61,5%	1205	32,7%	213	5,8%	0	0,0%

* – in this row, in cells 1 – the length of the site, m

** – in this row, in cells 2 – proportion, %
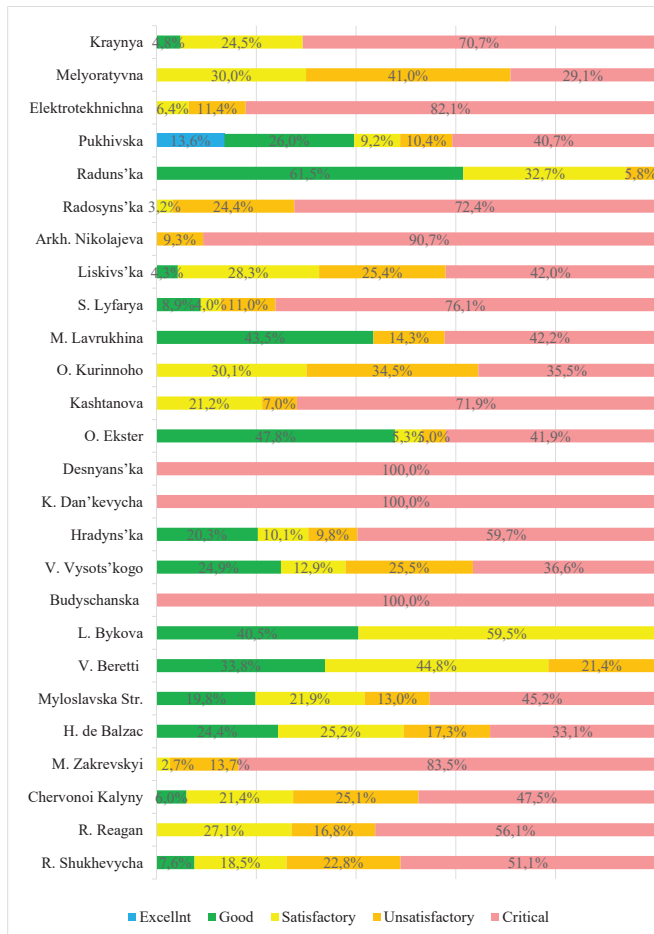
Figure 9 Histogram of the condition of the street and road network of Troeshchyna Desnyanskiy district of Kyiv as of September 2024.

The results of the study were applied in a research project 2023.04/0097 "Creation of a technology and a system of operational analysis and management of cement-concrete pavement condition of critical infrastructure objects based on spectral photoinformational images".

References

1. Chen, S.-L., Lin, C.-H., Tang, C.-W., Chu, L.-P., & Cheng, C.-K. (2020). Research on the international roughness index threshold of road rehabilitation in metropolitan areas: A case study in Taipei City. Sustainability, 12, 10536.
2. DBN V.2.3-5:2018 Vulytsi ta dorohy naselenykh punktiv. Zi Zminoiu № 1.
3. DSTU 3587:2022 Bezpeka dorozhnoho rukhu. Avtomobilni dorohy. Vymohy do ekspluatatsi-inoho stanu.
4. DSTU 8745:2017 Avtomobilni dorohy. Metody vymiriuvannia nerivnostei osnovy i pokryttia dorozhnoho odiahu.