5. Thomas D. The impressionists. Secaucus, New Jersey : Castle Books, 1975. 96 p.
6. Towle I. The Modernization of Paris, Gendered Spaces, and the Sexual Politics of Looking: A Comparison of Mary Cassatt's In The Loge and Edgar Degas' Woman in a Cafe: Evening. *Scaffold: A Showcase of Vanderbilt First-Year Writing.* 2019. Vol. 1. URL: https://ejournals.library.vanderbilt.edu/index.php/UWS/article/view/4704

***Mariia Pylypenko, Kseniia Kugai***
***(Kyiv, Ukraine)***

## THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE: ITS ADVANTAGES AND DISANDVANTAGES IN GRAPHIC DESIGN

*The study explores the advantages and challenges of using artificial intelligence in graphic design. It examines how AI technologies support creativity, automate routine tasks, and improve the efficiency of the design process. Particular attention is paid to issues of originality, copyright, the quality of AI-generated content, and the changing role of graphic designers. The study emphasizes the importance of combining AI technologies with human creativity and professional skills.*

***Keywords:*** *artificial intelligence (AI), graphic design, generative artificial intelligence, creativity, design process automation.*

*У статті досліджено переваги та виклики використання штучного інтелекту в графічному дизайні. Розглянуто можливості технологій штучного інтелекту для підтримки творчої діяльності, автоматизації рутинних завдань і підвищення ефективності дизайнерського процесу. Окрему увагу приділено питанням оригінальності, авторського права, якості контенту, створеного штучним інтелектом, а також змінам у професійній діяльності графічних дизайнерів. Підкреслено важливість поєднання технологій штучного інтелекту з людською творчістю та професійними навичками.*

***Ключові слова:*** *штучний інтелект, графічний дизайн, генеративний штучний інтелект, креативність, автоматизація дизайнерських процесів.*

The development of artificial intelligence gives designers new opportunities, but it also creates some problems. These problems are related to creativity, copyright, the quality of results, and the future of the profession. This issue is important because artificial intelligence has already become part of the graphic design industry. Designers need to understand how these technologies work, learn how to use their advantages, and carefully consider their possible risks.

Artificial intelligence (AI) is a group of technologies and methods that allow computer systems to do tasks that usually require human intelligence [3]. These tasks include recognizing images, analyzing information, understanding human language, finding patterns, and creating new content.

The development of AI has several stages. At first, researchers focused on creating systems that could follow rules and solve logical problems. Later, machine learning became more common. It allowed computers to find patterns in large amounts of data.

In graphic design, artificial intelligence is used to create advertisements, develop branding ideas, generate illustrations, edit photos, prepare presentations, design social media posts, and find different composition ideas. AI tools are also becoming part of common design programs. It means that designers do not always need to use a separate service to access these features.

Researching the application and impact of artificial intelligence technology in graphic design, H. Li et al. analyzed 33 studies about the use of AI in graphic design [5]. They identified several main areas of use: automating design tasks, helping with image editing, supporting the creative

process, and understanding how people see and respond to visual content. It shows that artificial intelligence affects not only the speed of individual tasks but also the whole design process.

One of the main advantages of artificial intelligence is that it saves time and helps designers work faster. Creating a design project often includes many repeated tasks, such as finding references, preparing images, removing backgrounds, changing colors, resizing images, and adapting designs to different formats. AI can automate these tasks, reduce the time spent on technical work, and help designers move to the next stages of a project more quickly.

Another important advantage is that AI can expand creative possibilities. Finding a good idea is often one of the most difficult parts of a project. AI tools allow designers to explore different art styles, colors, and visual ideas quickly. For example, when designing the identity of a café, a designer can try several concepts, such as minimalist, retro, natural, or experimental styles. The generated images can be used as the basis for sketches and help the designer choose the best direction for the project.

One more advantage is that design tools become more accessible to different people. One can use AI tools to create a simple illustration, a social media layout, or an advertising concept without having much experience in graphic design software. This option makes it easier for people to start creating visual content. It can also help small businesses, public organizations, and independent creators prepare materials when they have a limited budget.

However, easy access to these tools does not mean that professional skills are no longer important. To create a good design, people still need to understand composition, typography, color theory, visual hierarchy, and how people understand visual information. These skills help designers tell the difference between an attractive image and an effective design solution. AI is also useful for image editing and technical tasks. It can help remove unwanted objects from photos, expand images, improve image quality, create different backgrounds, and perform basic photo editing. This allows designers to prepare visual materials for advertising, publishing, and digital projects more quickly.

Research also shows the importance of AI in creative work. In 2024, Adobe published a report called *AI and the Creative Frontier Study* [1]. It explored the opinions of more than 2,000 creative professionals in the United States. The participants mentioned saving time and finding new ideas as some of the main benefits of generative AI. However, they also said that more transparency and better control over the use of copyrighted materials were needed.

One of the biggest disadvantages is the risk of losing individuality and originality in design. AI systems create images based on patterns they learn from training data. Because of this, their results may include common visual styles, similar layouts, and familiar design ideas. If many designers use the same tools and similar prompts, their work may start to look alike.

This problem is especially important in graphic design because its goal is not only to create an attractive image but also to build a recognizable brand identity. A brand's visual identity should show its character, values, and differences from other brands. A design may look modern, but it may still fail to show what makes a brand unique. That is why designers need to develop their own concepts, understand the client's needs, and improve AI-generated materials.

Another important problem is copyright and the use of other people's creative work. AI models learn from large amounts of data, which may include images, illustrations, and other materials created by people. It raises questions about whether these materials can be used to train AI systems, how artists' rights can be protected, and whether AI can copy specific artistic styles.

In January 2025, the U.S. Copyright Office published a report called *Copyright and Artificial Intelligence, Part 2: Copyrightability* [6]. It explains that copyright protection for AI-generated work depends on whether there is enough human creative input. According to the report, simply writing a prompt is not enough. However, original human-created elements, creative changes, and original arrangements may receive copyright protection. These conclusions apply to U.S. law and cannot automatically be applied to Ukrainian law.

An additional concern is the inconsistent quality of AI-generated results. Despite technological progress, AI systems can create images with mistakes in human anatomy, unnatural

details, incorrect text, or poorly organized compositions. In advertising, such mistakes can lead to incorrect information or materials that do not meet the client's requirements. However, it does not mean that the profession of graphic designer will disappear completely. AI can automate some tasks, but a full design project also requires audience research, concept development, communication with the client, brand identity development, and checking the effectiveness of the final result. These tasks require not only technical skills but also responsibility, critical thinking, and an understanding of people's needs.

A further challenge is the problem of becoming too dependent on technology. If designers always rely on AI-generated results, they may spend less time developing their own drawing, composition, typography, and visual analysis skills. In the long term, this may limit their professional growth and their ability to create original designs without AI assistance. Modern designers need more than just skills in graphic design software. They must understand the goals of a project, study competitors, understand how people see and feel about colors, work with typography, and create clear visual messages. It is also important to know how to use AI tools, write clear prompts, choose the best results, check images, and edit them.

At the same time, artificial intelligence does not have human life experience, personal feelings, or cultural memory in the same way that people do. It can create images related to traditions, emotions, or historical events, but people need to check whether these images are appropriate. This is especially important when creating designs about national culture, historical heritage, and sensitive social topics.

The way designers work with clients is also changing. AI helps designers show early ideas more quickly, compare different styles, and better understand what clients want.

In their investigation of the role of generative AI in the creative process, J. Hou et al. examined its impact on design practices [4]. The researchers studied designers with different levels of experience. They found that AI can help designers generate ideas, but its impact on the subsequent stages of the design process depends on the designer's experience and the specific stage of the project. These findings suggest that artificial intelligence cannot address every creative challenge.

In the future, designers who can combine traditional design skills with knowledge of new technologies will have better career opportunities. They will be able to use AI to find ideas and automate simple tasks while keeping their own style, independence, and professional responsibility. In the coming years, artificial intelligence will probably become even more common in design programs and designers' daily work [2]. Image generation, image editing, automatic layout design, and adapting designs for different digital platforms are expected to improve.

One promising direction is the development of smart tools that consider more parts of a design project, such as the target audience, brand style, technical limits, colors, and accessibility requirements. Another direction is better personalization. AI can help create visual messages for different groups of customers.

A promising approach is to combine human creativity with artificial intelligence [4]. AI can help designers explore different ideas and complete technical tasks, while designers choose the direction, check the quality, consider the cultural context, and take responsibility for the final result. This approach makes it possible to use the benefits of automation without completely losing human creativity.

Artificial intelligence has become an important part of modern graphic design. Its development creates new opportunities for making visual content, speeds up technical tasks, helps designers find ideas, and makes some design tools easier to use. With AI tools, designers can explore different ideas more quickly and focus more on the meaning and purpose of their projects. At the same time, using AI creates some problems. These include originality, copyright, image quality, competition between designers, and the risk of depending too much on automated tools. AI-generated results do not always meet the project's needs, so they must be checked, edited, and evaluated by a professional.

To conclude, the analysis of the advantages and disadvantages shows that artificial intelligence should mainly be seen as a tool that supports creativity, not as a complete replacement for graphic designers. AI can help bring ideas to life, but designers are still responsible for choosing the concept, understanding the target audience, considering cultural context, and making sure the final result is good.

## REFERENCES

1. Adobe Communications Team. Adobe's AI and the Creative Frontier Study Reveals Creators' Views on the Opportunities and Risks of Generative AI. *Adobe Blog*. 2024. URL: https://blog.adobe.com/en/publish/2024/10/08/adobes-ai-creative-frontier-study-reveals-creators-views-opportunities-risks-generative-ai

2. Elgendy H. Artificial Intelligence (AI) in Graphic Design: Identifying Benefits, Challenges, and Ethical Considerations. *OCAD University*. 2024. URL: https://openresearch. ocadu.ca/id/ eprint/4392/

3. Figma. Anticipation, Experimentation and AI: Design Trend Report. (2024). URL: https://www.figma.com/reports/ai-design-trends-2024/

4. Hou J., Wang L., Wang G. et al. Double-Edged Roles of Generative AI in the Creative Process: Experiments on Design Work. *Information Systems Research*. 2025. P. 1–20. https://doi.org/10.1287/isre.2024.0937

5. Li H, Xue T, Zhang A. et al. The Application and Impact of Artificial Intelligence Technology in Graphic Design: A Critical Interpretive Synthesis. *Heliyon*. 2024. Vol. 10, Issue 21. e40037. https://doi.org/10.1016/j.heliyon.2024.e40037

6. U.S. Copyright Office. Copyright and Artificial Intelligence, Part 2: Copyrightability. 2025. URL: https://www.copyright.gov/ai/

**УДК 7.031.1:7.012**

***Єлизавета Тимошенко***
***(Київ, Україна)***

## ВІД АРХАЇЧНОГО ОБРАЗУ ДО СУЧАСНОГО ВІЗУАЛЬНОГО КОДУ: ПЕРЕОСМИСЛЕННЯ ПЕРВІСНОГО МИСТЕЦТВА В ГРАФІЧНОМУ ДИЗАЙНІ

*У статті досліджено можливості переосмислення художньої мови первісного мистецтва в сучасному графічному дизайні. Проаналізовано основні виражальні засоби наскельних зображень і визначено принципи їх трансформації в сучасні графічні форми. Розглянуто перспективи застосування архаїчної образності у створенні авторських ілюстрацій та візуальної ідентичності брендів.*

***Ключові слова:*** *первісне мистецтво, наскельні зображення, архаїчна образність, графічний дизайн, стилізація, айдентика.*

*The article examines the reinterpretation of prehistoric artistic imagery in contemporary graphic design. It analyzes the expressive features of rock art and identifies principles for transforming archaic imagery into modern graphic forms. The study considers the application of these principles to original illustration and brand identity.*

***Keywords:*** *prehistoric art, rock art, archaic imagery, graphic design, stylization, brand identity.*

**Вступ.** Пошук оригінальних засобів візуальної виразності є важливим завданням сучасного графічного дизайну. Одним із джерел художнього натхнення виступає первісне мистецтво, зокрема наскельні зображення, які демонструють різноманітні способи передавання образів за допомогою лінії, силуету, плями та композиційного ритму.