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Copyrights to the Results of Artificial Intelligence Activity and Means of Their Protection

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Abstract

Objective: to substantiate the mechanisms of legal protection of intellectual property objects created with the use of artificial intelligence.

Methods: the use of artificial intelligence to create works that are traditionally considered copyright objects was investigated with a set of general scientific and theoretical-legal methods of scientific cognition, including comparison, analogy and synthesis. In addition, the practice of using artificial intelligence, including neural networks, to create such works was considered in several aspects on the basis of retrospective and multifactor analysis.

Results: the paper summarizes the current practice of using artificial intelligence to create works that traditionally belong to intellectual property objects (texts, images, music, software), taking into account the formulated scientific and legal positions. Several qualitatively different variants of the use of artificial intelligence were identified. For each of these variants the mechanism of legal protection was proposed and the areas of their effective application were indicated. Proposals were made to regulate the legal protection of the results of artificial intelligence activity; this was made not in the paradigm of competing doctrines, but by combining several tools, each of them to be applied in a relevant situation.

Scientific novelty: the paper presents ontological differentiation of the results of artificial intelligence activity and the corresponding mechanisms of their legal protection. The author propose to consider the results of activity created by artificial intelligence not as a single object of legal regulation, but as a set of externally similar, but ontologically different objects, each requiring a separate approach to legal protection.

Practical significance: the ontological differentiation of the results of artificial intelligence activity and their corresponding legal protection mechanisms proposed in this paper is relevant both as a basis for further research and as proposals to supplement civil legislation.

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Contents

Introduction

Digital technologies are an important factor of the present and a key component of the future. Today, it is appropriate to speak not just about experiments on the introduction of artificial intelligence and big data processing algorithms, but about a consensus on the need for such innovations. The Strategy for the development of information society, approved by the Decree of the President of the Russian Federation No. 203 on May 9, 2017, emphasizes that the competitive advantage in the global market belongs to the states whose industries are based on technologies for analyzing large amounts of data[1]. It is hard to argue with the above thesis: every year economic practice more and more clearly demonstrates the competitive advantages of robotization and the use of artificial intelligence.

The spread of digital technologies in general and the use of artificial intelligence in particular are transforming creative reality, among other things. Various technologies based on big data processing and machine learning have moved from the realm

[1] Decree of the President of the Russian Federation No. 203 of 09.05.2017. (2017). Collection of legislation of the Russian Federation, 20, Art. 2901.

of experimentation to the realm of economic and even household applications. Simply put, with the help of artificial intelligence, any person with basic knowledge of information technologies can not only receive information, but also create it.

Objects like texts, images and musical pieces have traditionally been considered intellectual property. However, today they are created using artificial intelligence. This means that not only in the abstract philosophical discourse, but also in the applied legal sense the following questions become relevant:

1. Should a work created by artificial intelligence be considered a result of creative activity?
2. Is such a work an object of copyright?
3. Is such a work an object of intellectual property?

These questions are related to one another, but each of them characterizes a separate phenomenon of the legal order. Their relevance is conditioned not only by the innovative nature of the technologies to be analyzed to obtain a correct answer to these questions, but also by the ubiquity of such technologies.

Therefore, we should clarify whether today's technologies allow recognizing artificial intelligence as a legal subject. A related but separate issue is the problem of recognizing artificial intelligence as the author of a work of art. The combination of these fundamental legal positions with the answers to the above mentioned questions creates the basis for legal regulation of the results of artificial intelligence activity, which is not only possible, but also necessary today. At the same time, it is important to remember that proper and effective regulation is only possible when the regulatory norms adequately reflect the essence of the regulated objects.

Consequently, for a symmetrical answer to the question about the possibility of a copyright to the results of artificial intelligence activity, it is necessary to analyze the essence of such activity. Actually, this topic cannot be fully disclosed exclusively in the legal field and requires an interdisciplinary approach. Although this research deals only with the regulatory aspect of the problem, we cannot avoid references to, at least, the basic technological aspects and principles of artificial intelligence when formulating legal positions.

Consistent answers to the questions proposed above should take into account the lack of consensus in the academic community on two issues: the essence of cognitive activity of artificial intelligence and its legal personality.

It should be noted, first of all, that the article leaves outside its scope the issues related to the legal personality of artificial intelligence, such as the status of a robot driver and the distribution and implementation of liability for the harm caused by it. Special studies are devoted to these issues, which mainly tend to the conclusion about subsidiary liability (Duffy & Hopkins, 2017), or, more precisely, about the liability matrix, on the basis of which the question of imposing adverse legal consequences is decided individually in each case, taking into account a set of facts (Colonna, 2012).

The mention of automated driving brings us back to the more general question of liability for harm resulting from the work of artificial intelligence (Bertolini, 2013). Today, the question

of the tortability of artificial intelligence seems to be rather practical than legal, because so far the intentional or at least negligent fault of "artificial intelligence intermediaries (developers and users) in the case of harm caused by the artificial intelligence system may be quite probable, legally and expertly provable" (Bertolini, 2013).

A question of even higher order is who becomes a party not only in tort, but also in any legal relationship generated by the actions of artificial intelligence. For example, if the consequences of the actions of artificial intelligence led to the legal existence of a new contract, who exactly will be considered parties to such a contract?

This level of generalization brings us to the question directly related to the topic of this article. Does a robot have legal subjectivity? The issue of copyright on the results of artificial intelligence activity is not reduced to the issue of legal subjectivity, but is directly related to it.

1. Robot as a subject of law

If we recognize artificial intelligence as a subject of law in general, then from this recognition logically follows a positive solution of such issues as the existence of copyright and other intellectual property rights to the works created by it.

However, is it actually – or at least potentially – possible to consider artificial intelligence as a legal subject with inherent rights and obligations? It is not easy to answer this question.

For example, the European Parliament Resolution of February 16, 2017, with recommendations to the Commission on Civil Law Rules on Robotics, while pointing to the increasing relevance of the issue of liability for harm caused by artificial intelligence, notes at the same time that current law does not allow bringing artificial intelligence to liability even when third parties are harmed[2]. Although this Resolution described the prospects for the legal subjectivity of artificial intelligence with utmost caution, the draft of May 31, 2016 formulated several approaches to enshrine "the legal nature of artificial intelligence: to treat it as natural persons, as legal entities, as animals or objects, or to create a new category, with its own characteristics and implications with respect to the attribution of rights and obligations, including liability for damages"[3].

Since the adoption of the resolution, the issue of the legal personality of artificial intelligence has not lost its relevance, and the debate intensifies every year. Somewhat simplifying, in the international discussion we can distinguish several key approaches to resolving this issue: stating that there is no possibility of recognizing the legal personality of artificial intelligence (Calo et al., 2018); applying legal fiction by establishing a legal

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2 European Parliament Resolution of 16 February 2017 with Recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)).

3 Committee on Legal Affairs. (2016, May 31). Draft report with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)). https://clck.ru/36hAPJ

personality of artificial intelligence similar to that of legal persons (Solaiman, 2017); or even forming a new branch of legislation dedicated to the specific regulation of the status of artificial intelligence and relevant to this specificity (Cofone, 2018).

Noteworthy is the opinion of prominent Russian researchers that today "the most rational, but not uncontroversial, is the use of the concept of the legal personality of artificial intelligence similar to a legal entity or an electronic person; the approach to legal regulation in the framework of legal liability related to users, owners or producers of artificial intelligence systems, rather than related to technological objects" (Ivliev & Egorova, 2022). The concept of "electronic person" as a new subject of law is worth recalling when discussing the issue of intellectual rights to the results of artificial intelligence activities. Here it is also worth noting that the legal personality of artificial intelligence may have similarities with legal personality of a legal entity, but for a number of reasons it cannot be identical to it.

It should be also noted that the question of the legal personality of artificial intelligence cannot be solved once and for all. "What constitutes AI is subjective and best described as moving target. What AI is for one person may not necessarily be AI for another, what was considered AI say fifteen years ago is nowadays considered commonplace and even the question of 'what is intelligence?' is contested and debated" (Greenstein, 2022).

The status of artificial intelligence in legal relations largely depends both on the achieved level of technological development, which allows a robot to perform certain thinking functions, and on the level of social relations development, where the artificial intelligence activity may be more or less significant. From the point of view of the achieved level of technological development to date, "obvious is the failure of the proposal to recognize the legal personality of artificial intelligence similar to that of a physical person, and, despite using the human brain principles to build an artificial intelligence system, the principles of legal regulation of a physical person status cannot be applied to artificial intelligence" (Durneva, 2019).

This is due to the fact that the ability to generate legal relations is only a part of legal personality. A fully-fledged legal subject implements rights and bears responsibilities, as well as becomes liable on the appropriate grounds. The possibility of real application of the same responsibility measures to artificial intelligence today is very doubtful. Not to mention that the category of guilt – be it intention or negligence – does not correlate with the phenomenon of artificial intelligence at all.

Moreover, giving artificial intelligence in its current form a legal personality is a potential threat to the rule of law. After all, legal personality includes the ability to make legally significant decisions. "The threat to the rule of law lies in the fact that most of these decision-making systems are 'black boxes' because they incorporate extremely complex technology that is essentially beyond the cognitive capacities of humans and the law too inhibits transparency to a certain degree. It is here that the demands of the rule of law, such as insight, transparency, fairness and explainability, are almost impossible to achieve,

which in turn raises questions concerning the extent to which the rule of law is a viable concept in the technocratic society" (Greenstein, 2022).

This, in turn, brings us to an aspect that is important for solving the question of the artificial intelligence authorship. Is not it an unjustified anthropomorphization of a robot to mechanistically transfer to artificial intelligence the categories inherent in human consciousness, be it the category of guilt or the category of creativity? We are speaking not about the notorious "uncanny valley effect", but about much more fundamental, ontological aspects.

It should be clearly realized that, anyway, we are discussing the rights of robots from an anthropocentric point of view. This also applies to the axiological dimension, in which we recognize as right and valuable exactly what seems right and valuable to us, humans – even though jurisprudence is called a social-humanitarian discipline, not a natural science, for a reason. The same applies to the utilitarian approach.

Simply put, ultimately we want to give robots legal personality so that they can be answerable to us humans for their actions.

The above-mentioned European Parliament Resolution formulates this idea in a vague and rather ambiguous way: robotics research activities should observe the existing fundamental rights and be performed in the interests of the well-being and self-determination of the individual and society as a whole[4]. The Government of the Russian Federation has formulated a similar idea in the Concept for the regulation of relations in the sphere of artificial intelligence technologies in a more definitive manner: the approach to the regulation of such relations should be based on the principle of balancing the interests of developers, consumers and other persons, as well as defining the boundaries of their responsibility for possible negative consequences of the use of artificial intelligence technologies[5]. Thus, the protection of physical persons, rather than the rights of robots, is at the center.

Even if we recognize as premature the positive resolution of the issue of legal personality of robots, one should agree with the idea "of the need to be proactive and to normatively stipulate the duty of developers and other authorized persons to take all necessary measures to ensure the interests of human beings in the process of artificial intelligence functioning, as well as to develop a system of norms that ensure the fulfillment of this duty" (Durneva, 2019).

The priority of human rights protection when regulating even such a specific sphere as the artificial intelligence activity is important due to one more aspect. The fact that the results of information processing by a robot are comparable, and often even superior to similar

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4 European Parliament Resolution of 16 February 2017 with Recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)).

5 Enactment of the Government of the Russian Federation No. 2129-r of 19.07.2020. Collection of legislation of the Russian Federation. (2020). 35, 5593.

human results, does not mean that the essence of information processing, i. e. thinking, of artificial intelligence is comparable to human thinking. Therefore, there are reasonable doubts that artificial intelligence inherently realizes the value dimension of law.

This is not a question of understanding the value of law as one of the axioms that artificial intelligence may use to process data. It is about realizing this value, i.e. subjective attitude to it. Simply put, does artificial intelligence need rights? From the viewpoint of a developed citizen's logic, the answer is unambiguous: any acting and self-aware subject needs rights. But is this answer so unambiguous from the viewpoint of artificial intelligence? In other words, by assigning rights to a robot, are we not imposing on them a purely alien category that has no value dimension for them?

Within the discussion on the legal personality, legal capacity, and tortability of artificial intelligence, it is necessary to at least point out such an important aspect as self-identification as a subject of law. After all, self-identification is by no means identical to the answer "I am a subject of law" pre-recorded and predetermined by an algorithm. Such an answer can technically be voiced by any smart speaker today. But can we be sure that the meaning behind these words is of any significance for the artificial intelligence making decisions?

In the future, we cannot absolutely exclude the emergence of a real need to recognize and regulate the artificial intelligence's rights to the works created by it. However, it is no less likely, even in the long term, that alternative options will be found for registering and protecting a sustainable link between artificial intelligence and results of its activity, since law is an extremely significant, but not the only institution for regulating relations. It seems that the search for a regulatory institution ontologically relevant to the artificial intelligence phenomenon will become an urgent issue in the nearest future.

These basic considerations regarding legal subjectivity are extremely important for the accurate consideration of the issue of artificial intelligence's copyright to the works created by it.

2. Robot as an instrument of creativity

A robot composes music. A robot draws pictures. A robot writes stories. Lastly, a robot writes a program code. It often makes all of these things not worse than a human being, and it certainly makes them much faster.

It is tempting to equate the creation of works that traditionally belong to the objects of copyright with creativity. In the legal sphere, the question is raised about recognizing artificial intelligence as a copyright holder (Abbott, 2016), because the creative contribution to a piece of work is traditionally regarded as a key attribute of authorship. By and large, the discussion continues about the correctness of indicating the artificial intelligence authorship of the work created with its participation.

Noteworthy in this context is the famous case of Dr. Steven Thaler, which was considered by courts in several common law countries. He claimed to have created an invention machine. This machine developed several useful models, which Dr. Thaler decided to patent. He marked himself as the patentee on the basis that the inventions were made by a machine that belonged to him.

The UK Patent Office refused to register this right, and the inventor appealed against this refusal in court. According to him, the current legislation on copyright protection does not contain a provision that the inventor's rights must belong to a person. He justified the ownership of patent rights to the machine owner by analogy to the rule of property accretion: "The crop belongs to the herd owner".

The case Thaler v. Comptroller-General for Patents, Trademarks and Industrial Designs reached the Court of Appeal of England and Wales, which on September 21, 2021, issued a verdict that the current patent law does not allow considering artificial intelligence as the author of the invention[6]. However, when Thaler sued the local patent office in an Australian court, the judge upheld his position that artificial intelligence can and should be recognized as an inventor[7], and that without granting legal protection to artificial intelligence inventions, the very objective of patent law to promote technological progress would not be achieved.

This dispute demonstrates that a seemingly theoretical question of the artificial intelligence authorship breaks down into two applied questions:

1. Can artificial intelligence be considered the author of an invention, artwork, etc.?

2. If artificial intelligence cannot be considered an author, is such a work subject to copyright protection?

To answer both questions, it is appropriate to continue our review of common law precedents by recalling an age-old case Burrow-Giles Lithographic Co. v. Sarony. On March 17, 1884, the Supreme Court of the United States, in a decision in that case, recognized that the copyright to a photographic card belonged not to a camera or its manufacturer, but to the photographer[8].

We cannot today reliably judge whether, in the last quarter of the 19th century, a camera seemed a futuristic technology to the same extent that artificial intelligence seems in the first quarter of the 21st century. But it is extremely relevant to the court's conclusion that it was the photographer who conceived, organized the execution of, and implemented the creative intent.

Indeed, a photographer is not identical to an artist – but this does not prevent them from both being authors. A composer can create music with a synthesizer, but she is the

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6 Judgment of the Court of Appeal in England and Wales in Thaler vs Comptroller-General of Patents, Designs and Trademarks [2021] EWCA Civ. 1374. https://clck.ru/36hASY

7 Judgment the Federal Court of Australia in Thaler v. Commissioner of Patents [2021] FCA 879. https://clck.ru/36hAT8

8 Burrow-Giles Lithographic Co. v. Sarony.March 17, 1884. https://clck.ru/36hATk

author of that music. No one doubts that in the first case it is only a method of imaging, and in the second case it is only a method of sound production, and not the transfer of part of the creative work to the instrument.

Moreover, the less work of the author is spent on preparing paints and easel or organizing a brass band, the more the essence of this work constitutes creativity per se. An idea, a creative conception, a vision – this is what the author works with, as their labor is purified from the craft component.

Artificial intelligence in this context appears to be a tool like a camera. The only difference is that this tool gives an artist even more space for creativity. This said, the creation of works of art with the help of artificial intelligence will not cancel or replace painting or photography, just as book printing did not cancel calligraphy.

As long as it is humans, not artificial intelligence, who set the parameters of future works, "it is debatable to recognize copyright of artificial intelligence. Copyright may belong to the user of artificial intelligence, i. e. the creator of the work through artificial intelligence systems. It is unlawful to equate an artificial intelligence system and a human being in rights" (Ivliev & Egorova, 2022). Parameters set by a human by entering a request into a chat or otherwise interacting with artificial intelligence directly affect both the content and quality of the work. It is impossible to paint pictures with the help of a neural network or write texts with the help of a chat room without an initial creative impulse.

Thus, no legal fiction is required to recognize that the author of a work created with the use of artificial intelligence is the person whose creative idea was embodied by that work.

In this context, we consider outdated the legal position that the results of the work of artificial intelligence are not protectable as intellectual property at all, on the grounds that they are not created by humans. For example, in the United States, for theological and ethical reasons, the very possibility of creativity is recognized only for human beings and cannot be recognized for any other subject – neither nature, nor animals, nor machines (Solum, 1992). In this paradigm, a painting created by a neural network is not subject to legal protection to the same extent as a frost drawing on glass or a cat's paw print on canvas.

Plenum of the Supreme Court of the Russian Federation in para. 80 of the Resolution "On application of part 4 of the Civil Code of the Russian Federation" is guided by the same logic: "In resolving the issue of attributing a particular result of intellectual activity to copyright objects, courts should take into account that, within the meaning of Articles 1228, 1257 and 1259 of the Civil Code of the Russian Federation (further – CC RF) in their interrelation, only the result that is created by creative labor can be considered as such. <...> The results created with the help of technical means in the absence of the creative nature of human activity (for example, photo and video recordings by an automatic video surveillance camera used to record administrative offenses) are not considered objects of copyright"[9].

[9] Resolution of the Plenum of the Supreme Court of the Russian Federation No. 10 of 23.04.2019. (2019). Bulletin of the Supreme Court of the Russian Federation, 7.

However, while a surveillance camera recording the work of a turnstile actually does not create a copyright object for lack of a creative idea, the above-mentioned neural network pictures or chat texts cannot be created without such an idea. Therefore, the author of such a work can and should be recognized as the person who gave this idea to the artificial intelligence. We cannot agree with the conclusion that "there is no creativity in the artificial intelligence activity when creating results similar to copyright objects, so the results created by it cannot be qualified as copyright objects and are not subject to protection by intellectual property law" (Vitko, 2019).

"Derivative results of the use of artificial intelligence programs can be recognized as objects of civil law" (Kirsanova, 2022). The rejection of this principle today would mean the denial of legal protection to a huge number of intellectual property objects, which, in turn, would mean an unjustified restriction of copyright of those humans who can and should be recognized as their authors.

Undoubtedly, one may predict future situations in which artificial intelligence creates, on its own initiative, a work "similar to a copyright object"; for example, while executing an algorithm to create design documentation, it may come to a conclusion that the documentation would be incomplete without a five-minute movie about the future object. But today, by their very nature, works created using the artificial intelligence are not just similar to copyright objects but are actually such objects.

Article 1228 CC RF stipulates that creative labor is a factor in the emergence of copyright, while not limiting the legal protection of the results of such labor to its implementation means. Moreover, Article 1227 CC RF directly states that authorship does not depend on the material medium of the work.

This said, the presence of creative labor, resulting in the authorship of an intellectual property object, does not exclude that this object as an artistic work may be secondary in relation to another, previously created piece. At the same time, the very fact of the work's secondary nature cannot and should not exclude the possibility of its legal protection. A good example is: "If a virtual copy (a moving character in a painting) is a new creative object due to certain effects, movements, mimics or other creative actions, it can be recognized as a new derivative object" (Rakhmatulina, 2019). This nuance is important in determining the protectability of works of artificial intelligence, because almost all of them are to some extent based not only on the creative idea of a person who composed the request to artificial intelligence, but also on the processing of an array of previously created works.

Each of the works in that array is a copyright object, even if this right is not commercialized and the works are publicly available without restrictions on reproduction. Moreover, the situation is already relevant when a neural network processes works previously created by other neural networks in order to create a piece of art. Such processing may mean borrowing, more or less noticeable for a human.

In order to avoid disputes about the percentage and substance of borrowing, which are inevitable in case of traditional approaches to copyright protection for the results

of intellectual activity created with the use of artificial intelligence, it seems extremely important to take this nuance into account when characterizing the uniqueness of such works. This uniqueness, as it was said above, is generated not by a neural network processing of other people's works, but by an independent creative impulse that a person as the work author gave to the neural network for its creation.

Nowadays, this impulse, as a rule, is set in the form of a query, which is a combination of key words. To create a finished work of value, a series of queries is usually required. It is this series of queries in combination with the result of their processing by a neural network that represents a unique combination, which in the long run should become the object of intellectual property right to a work created with the use of artificial intelligence. Thus, when identifying a work created by a neural network, it seems reasonable to specify at least the following data:

– the author's name;
– the work title;
– the name of the neural network;
– a sequence of queries given by the author to the neural network.

If this construction is adopted to identify a work created using artificial intelligence, we will have a combination like "Dmitry Kazantsev, painting 'Serenity', generated with the query 'sunset in early autumn in the southern foothills of the Alps' by the Kandinsky neural network". It is reasonable to use such a combination both when indicating authorship of such a work and when registering rights to it in patent institutions if the norms of national legislation provide for such registration for this category of works, for example, if a computer program was created with the help of a neural network.

It is worth recalling that back in 2017 A. Gurko proposed a number of adjustments to the civil legislation for registering intellectual rights to the results of artificial intelligence activities. For example, it was proposed to supplement Article 1228 CC RF with the provisions that the rights to the results of artificial intelligence activities arise in the owner of the hardware-software complex, the right holder of artificial intelligence such as a computer program, or the user of this program. It was proposed to group in a separate article the norms according to which the rights to the works of science, literature and art generated by artificial intelligence belong to the owner of the device used for this objective, and if the device owner is not the owner of the computer program used for this objective, then the rights to such pieces belong to the user of the artificial intelligence (Gurko, 2017).

Over the past few years, the need for some clarification of these novelties has become obvious (e.g., disclosure of the "user" concept regarding the correlation between user rights and holder rights). For example, the following pattern is quite common today: an employer gives a task to an employee – the employee formulates a request for a neural network – the neural network creates a work. It is important to unambiguously and legislatively regulate the issue of who is the right holder in this case. The general

thesis that the rights to the results of artificial intelligence work are held by its user is a simplification in this case and needs to be specified. At the same time, it is obvious that the work created with the participation of artificial intelligence should have legal protection in this case too.

We consider very relevant the central idea that it is logical to grant legal protection to the results of the work of artificial intelligence – including in the form of artistic works, inventions, utility models, computer programs and other copyright objects – as intellectual property of a particular individual or legal entity.

At the same time, the use of such an innovative and specific tool as artificial intelligence requires logically and terminologically distinguishing the works created with its help. The terms "digital" or "algorithmic" (Mazzone & Elgammal, 2019) art, for example, seem to be appropriate. As a generic definition, the concept of "results of artificial intelligence activity" is more or less universally used.

It is important to distinguish between the notions of "results of artificial intelligence activity" and "works of artificial intelligence": in the first case we are talking about the use of artificial intelligence as a tool, which is correct, while in the second case we can assume the creative subjectivity of artificial intelligence, which is premature at present, given the existing technologies. International studies question the correctness of the very naming of neural networks as full-fledged artificial intelligence and recognition of the possibility of their full-fledged thinking and solving creative problems (Lee et al., 2021). Indeed, however vast the information processing capabilities, the results of artificial intelligence activity are reduced, in fact, not to the creation of new works, but to a deep compilation of previously created works.

Speaking about the a priori secondary character of such results in relation to previously created works, one cannot avoid the question of the limits of using those previously created works when working with the result of artificial intelligence activity. The resolution of this issue is beyond the scope of this article, but it seems necessary to state it. For example, in 2023, short videos created by a neural network became viral, in which the characters of iconic works of fiction were presented in an unusual style – from the aura of traditional families in Naples to the Tarkovsky's films settings.

It is obvious that such works are of interest for a consumer not only and not so much due to the original idea of an unusual combination set to the neural network, but due to the use of popular images for this combination. In case of commercialization of such results of artificial intelligence activity, the question will inevitably arise concerning the admissibility of using other people's images with recognized commercial value to create other works, even those using artificial intelligence. It seems that today the solution to this issue, at least at the conceptual level, can be based on the existing approaches and norms of intellectual property protection.

3. Robot as a subject of creativity

Today, legal subjectivity in the creation of works and copyright even to works created with the use of artificial intelligence are human prerogatives. But even postulating this approach as a rule, can we be sure that exceptions to this rule will not occur? One should not limit oneself to today's realities and completely exclude the possibility of a situation in which artificial intelligence will be the actual author of an image, a piece of art, a melody or a computer program.

Technically, even today such a situation can be imagined in at least two cases.

First, when the human formulation of a task for artificial intelligence is so general that it does not allow recognizing the presence of a creative idea ("write a cheerful melody", "make a beautiful pattern in oriental style"). Obviously, identical requests like those can be generated almost simultaneously by a large number of users, which makes it extremely difficult to recognize the author's priority for one of them.

Second, today it is easy to imagine a situation when a robot creates an object which can be legally protected as intellectual property without any direct guidance from a human being. For example, a human gives a task to write technical documentation (the authorship of which can be recognized as human if the above assumptions are accepted), and the artificial intelligence writes a script for calculating risks as a supplement to such documentation (the latter software created by artificial intelligence can hardly be recognized as human authorship due to the absence of any creative intent on the part of the human).

In the following section we will speak not about the works created with the use of artificial intelligence in general, but about those results of artificial intelligence work, in the creation of which the role of human creative participation is vanishingly small or it is difficult to identify such participation at all. Since the results of intellectual activity of artificial intelligence can potentially be created without human creative participation, the following important questions arise when discussing the status of such specific works:

1. Who is the author of the work created by artificial intelligence without human creative participation?

2. Are such results of artificial intelligence activity subject to legal protection?

The simplest answer to these questions may seem to be the recognition that all rights to such a work belong to the artificial intelligence. However, returning to the question of the legal subjectivity of artificial intelligence, we must remember that such a simple, at first glance, solution "implies not only the recognition that the neural network has created an original work, but also that it is able to make conscious decisions on the disposal of rights to it" (Kodaneva, 2021).

Under these circumstances, one may propose to indicate the authorship of artificial intelligence in the work title, but at the same time not to consider artificial intelligence as the author and right holder of the work in the civil-legal sense.

When addressing the issue of legal protection of the results of artificial intelligence activities, it is worth understanding clearly that the rights to works are not limited to the right to indicate authorship. Moreover, it was fairly noted that "the authorship of the result of intellectual activity may have value as a title (the inventor of penicillin, the author of 'War and Peace', etc.), but it is the exclusive rights that are of commercial interest" (Petrakov & Tumakov, 2022).

Indeed, in addition to the right to indicate authorship, there are – in some cases having obvious applied and commercial value – such rights to the results of intellectual activity as "the right to inviolability of the work, the right to promulgation, the right to recall, the right to inviolability of performance); and other rights (for example, the right of succession, the right of access, the right to remuneration for the official result of intellectual activity, the right to protect the phonogram from distortion in its use, the right to obtain a patent, etc.)"[10].

Both the wording of civil law norms, legal doctrine and the practice of intellectual property protection tell us that one person may be considered the author of a work, but another person may have rights to the work, exclusive rights among them. From this we can conclude that the right to indicate authorship is separate from the exclusive rights to the work.

Thus, the absence of copyright on the work created by artificial intelligence – or, if you will, reduction of such rights to the mandatory indication of the fact that this work is the result of the artificial intelligence work – should not mean the absence of legal protection for such a work. The only question is who will be the right holder in this case.

The most obvious option is to consider the results of artificial intelligence activity as a special case of a work for hire, except that the artificial intelligence in place of an employee to whom the employer sets an official task (Yanisky-Ravid, 2017). Indeed, the legal consequences in both cases will be similar: it is not the author of the work who becomes the right holder, but the subject who initiated its creation. However, similarity does not mean identity in this case. For example, artificial intelligence is not in labor relations with its right holder; the request of the right holder is not formalized according to the rules of a work for hire; the request may not include the key parameters of the future work at all, etc.

The question of the difference between a work for hire and a request for a neural network cannot be regarded as exclusively legal and theoretical. Its practical significance is conditioned by the rapid spread of artificial intelligence technologies in industrial sphere. Works created by artificial intelligence within the framework of commercial activities of a legal entity are, perhaps primarily, the very objects of intellectual property, the rights to which have commercial value.

All this forces us to address not from a theoretical, but from a practical viewpoint, the question that "the introduction of the right to the result of artificial intelligence activity

[10] Resolution of the Plenum of the Supreme Court of the Russian Federation No. 10 of 23.04.2019. (2019). Bulletin of the Supreme Court of the Russian Federation, 7.

can be modeled along the pattern of neighboring rights, but it clearly loses its connection with copyright; therefore, we think it appropriate to speak of the sui generis right to digital results of artificial intelligence activity" (Kharitonova, 2019). Indeed, if authorship of the results of artificial intelligence activities cannot be recognized for a particular person or group of persons, the legal protection of such results requires new legal tools. These instruments can and should build on the existing intellectual law constructs, but they cannot be reduced to a single structure.

In this paradigm, it seems reasonable to agree with the thesis of "the existence of prerequisites for the emergence of a new legal institution in intellectual property law – the institution of the right to the results of artificial intelligence activity. The institution is sui generis within the framework of intellectual property law and is not reduced to the traditional copyright, patent law, neighboring rights and others, although in some part it is based on the constructions of such traditional institutions" (Anikin, 2022).

Thus, if a person can be recognized as an author of the results of artificial intelligence activity and, accordingly, artificial intelligence itself can be recognized only as an instrument of implementation of a person's creative idea, then the legal protection of the work can be based on the existing copyright norms. However, if such recognition becomes difficult for one reason or another, a new legal institution will potentially be required in the future. It is important not to regard these two approaches as competing. After all, it is only on their combination and the application of each in a relevant situation that the future right to the results of artificial intelligence should be based.

Conclusions

When formulating conclusions regarding the legal regulation and legal protection of the results of artificial intelligence activity, it is necessary, first of all, to realize that this field is elastic to a certain extent. The results that are relevant today must be regularly verified in the future according to the achieved level of technology.

However, today, when regulating copyrights to texts, images, musical pieces and other works created with the use of artificial intelligence, it is rational to proceed first of all from the prevalence of the absence of legal subjectivity in artificial intelligence. This does not mean that it is fundamentally impossible to recognize artificial intelligence as a legal subject. It only means that today, both from the viewpoint of existing digital technologies and from the viewpoint of legal consciousness, delictual dispositive capacity and other legal institutions, it is at least doubtful that a robot can implement its legal subjectivity.

"Giving robots (an artificial intelligence system) the status of a legal subject will not entail any explicit negative consequences in the foreseeable future. At the same time, the advantages of such a solution are also not visible, compared to considering robots

(artificial intelligence systems) as quasi-subjects of law. Proceeding from the Occam's philosophical principle of not to multiply entities unless absolutely necessary, we believe it premature to introduce such a fundamentally new legal subject as a robot (an artificial intelligence system) into the legal sphere" (Channov, 2022).

Performance of intellectual and creative tasks by a robot at a level comparable and sometimes even superior to that of a human being cannot be considered as a basis for recognizing artificial intelligence as identical to a human being, both in terms of law in general and copyright in particular. "There is no doubt that the gap between artificial intelligence and humans is narrowing. However, it does not seem likely to be completely bridged any time soon, as it is humans that customize models, select training examples, and use digital technologies for creativity. The idea that machines can be artists or can even replace artists, as they have already replaced some professions, seems too bold so far"[11]. At the same time, the sphere of creativity by virtue of its very specificity dictates caution in the aspect of transferring anthropomorphic features to artificial intelligence, including assigning it the category of creativity.

"Attributing legal subjectivity to artificial intelligence would help to deal with the problem of authorship. However, this approach seems unsuitable for solving other important problems, such as liability. We believe that nothing will be achieved in terms of the copyright provisions, since everything is created by a human being with their creativity, unique and new ideas. This can be achieved even now by rethinking the doctrinal aspects that shape copyright, such as uniqueness and creativity, and identifying the 'decisive' person behind works of art created with the help of artificial intelligence" (Sushkova, 2022). It is the creative intent of a person, and not at all the tool for the implementation of such an intent, that should be the criterion of authorship.

To date, based on these assumptions, the main conclusions regarding intellectual rights to the results of artificial intelligence activity can be formulated in the form of several basic theses.

First, it seems premature to give artificial intelligence a legal subjectivity, including due to the obvious problems with the awareness and implementation of its legal capacity, as well as with the practical implementation of its delictual capacity.

Second, today's practice of using artificial intelligence to create texts, musical works, images, software and other copyright objects in most cases allows identifying the person or group of persons whose creative intent was implemented by artificial intelligence. In these circumstances, the recognition of artificial intelligence as the author of a work seems unreasonable.

[11] Suetin, N. (2020, June 8). Artificial intelligence in modern art. Skolkovo innovative center. https://clck.ru/Ntrio

Third, the refusal to recognize artificial intelligence as the author of a work should not be followed by a refusal to legally protect such a work. As a general rule, it is the person whose creative idea was implemented with the use of artificial intelligence that would be recognized as the author and right holder. In this sense, the use of artificial intelligence for creativity is in essence differs little from the use of other technical means for the same objectives, such as a camera, synthesizer, etc.

Fourth, the absence of ontological difference between artificial intelligence and a camera in the context of creativity does not mean that there is no actual difference. In this regard, it is relevant to use special concepts for the results of creativity in which artificial intelligence was involved. This could be a general notion of "the results of artificial intelligence activity" or more specific definitions such as "digital art".

Fifth, when it is impossible to identify the creative intent of a human being in the creation of a work by artificial intelligence and the actual author of the work is artificial intelligence, it deserves a special designation as a work of artificial intelligence. Such designation replaces the indication of authorship in the civil-legal sense, and such works are subject to legal protection under special rules. These rules, in particular, provide for the absence of indication of the author's name and legal protection of the work as intellectual property of the owner of artificial intelligence. The mechanism of legal protection of the results of the artificial intelligence work in this case may be similar, but not identical, to that of a work for hire.

Finally, it is important to take into account the principles and fundamentals of the technology of information processing by artificial intelligence – in particular, the fact that in the works formed by it, there are inevitable repetitions of elements of already existing works, including those created by artificial intelligence. Together with the postulation of authorship of the person who provided the artificial intelligence with the key words to create the work, it seems necessary to take into account in legal reality the specificity of the copyright object created with the use of artificial intelligence, namely: the legal protection object is a combination of the work per se (text, melody, image, etc.) generated by artificial intelligence, and the key words set by the author for such generation. The object of copyright protection in this case will be a unique combination of the author's name, the sequence of their requests to the artificial intelligence and the work per se, formed by the artificial intelligence as a result of processing the sequence of these requests.

The combination of these approaches will help not only to develop an adequate regulation of the results of artificial intelligence activity, but also to make such results a full-fledged element of the legal domain and in this sense a full-fledged intellectual property. Since legal protection is an important factor of interest and investment, which is clearly demonstrated by patent law, for example, one should hope that circumspect legal regulation of intellectual rights to works created with the participation of artificial intelligence will serve as an impetus for progress in this area.

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Авторские права на результаты деятельности искусственного интеллекта и способы их защиты

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Ключевые слова

деликтоспособность,
интеллектуальная собственность,
искусственный интеллект,
нейросеть,
право,
правоспособность,
правосубъектность,
робот,
творчество,
цифровые технологии

Аннотация

Цель: обоснование механизмов правовой защиты объектов интеллектуальной собственности, созданных с использованием искусственного интеллекта.

Методы: использование искусственного интеллекта для создания произведений, традиционно относящихся к объектам авторского права, исследовалось посредством совокупности общенаучных и теоретико-правовых методов научного познания, включая сравнение, аналогию и синтез. Кроме того, практика использования искусственного интеллекта, в том числе нейросетей, для создания таких произведений была рассмотрена в нескольких аспектах на основе ретроспективного и многофакторного анализа.

Результаты: в работе обобщена актуальная практика использования искусственного интеллекта для создания произведений, традиционно относящихся к объектам интеллектуальной собственности (текстов, изображений, музыки, программ для ЭВМ), с учетом сформулированных научных и правовых позиций. Выделено несколько качественно различающихся между собой вариантов использования искусственного интеллекта. Для каждого из этих вариантов был предложен механизм правовой защиты, а также указаны области эффективного их применения. Даны предложения по регулированию правовой защиты результатов деятельности искусственного интеллекта не в парадигме конкурирующих доктрин, а в сочетании нескольких инструментов с применением каждого из них в релевантной ситуации.

Научная новизна: в работе представлена онтологическая дифференциация результатов деятельности искусственного интеллекта и соответствующих им механизмов правовой защиты. Созданные искусственным интеллектом результаты деятельности предлагается считать не единым объектом правового регулирования, а совокупностью внешне сходных, но онтологически различных объектов, каждый из которых требует собственного подхода к правовой охране.

Практическая значимость: предложенная в настоящей работе онтологическая дифференциация результатов деятельности искусственного интеллекта и соответствующих им механизмов правовой защиты актуальна как в качестве основы для дальнейших исследований, так и в качестве предложений для дополнения норм гражданского законодательства.

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