

# Legal Protection of Discovery: An Alternative to the Exclusive Right to the Result of Scientific Activity

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## ABSTRACT

The article analyzes the experience of legal protection of scientific discoveries in the legislation of the USSR. The author explores the features of the results of scientific activity as objects of copyright and patent law. The researcher concludes that the legal protection of the results of scientific activity by means of intellectual property law is inadequate due to the absence, as a rule, of a scientific result of signs of objects of both copyright and patent law. The author considers current trends in the use of scientific results, which include the requirement of free access to results and their publication on the basis of an open license ("OA2020 Initiative"). The researcher concludes that the current trends in the legal protection model of discovery are consistent. The scientist proposes to create an alternative legal protection of the results of scientific activities within the framework of intellectual property law. This protection system occupies an intermediate position between the protection systems provided by copyright and patent law. The researcher suggests using elements of the legal construction of the right to discovery when creating this alternative system of protection. The significance of the research is expressed in the fact that the modeling of special rights to a scientific result has been performed. These rights are included in the system of intellectual rights (intellectual property), but occupy an intermediate position between copyright and patent rights for the result of intellectual activity.

**Keywords:** *science, discovery, exclusive right, open access*

## 1. INTRODUCTION

Legal protection of scientific discoveries existed in the USSR, respectively, the legal literature of the Soviet period studied the right to discovery. We can name as an example such an author as Joffe [1]. The protected right to discovery is absent in modern Russian legislation. The issue of legal protection of discoveries is debatable in modern Russian science. A number of authors, among them Gavrilov, indicate that the right to discovery does not fit into the generally recognized system of protecting the results of intellectual activity [2].

Other authors substantiate the need to restore the legal protection of discoveries, which will contribute to the development of fundamental research and modernization of the Russian economy. See, for example, the work of Eremenko [3]. The right to discovery is considered in modern legal science in connection with the protection of the results of scientific activity. This is indicated, for example, by Murzin [4].

The study of the legal construction of the right to discovery is in connection with the search for systems of legal protection of the results of creative activity, alternative to the system of protection through exclusive rights. See on this subject works of Kashanin [5]. The search for alternative legal protection systems is explained by the fact that in the modern world, the establishment of an exclusive right to the result of intellectual (including

scientific) activity no longer promotes innovation. This is indicated by Ivanov [6]. Turning to the experience of states with a different socio-economic system is justified in conditions where there is a request for an operational response when the situation in the economy changes. See, for example, the work of Lisachenko [7].

## 2. PROBLEM STATEMENT

The legal protection of a scientific discovery, introduced in Soviet law, is criticized because it does not establish the exclusive right to discovery as a result of scientific activity. At the same time, the traditional protection provided to the holder of the exclusive right is ineffective precisely in the field of scientific activity. Thus, the problem lies in the need to search for new legal models for the protection of the results of scientific activity, including using the experience of legal protection of discovery.

### 2.1. Research Questions

We set a number of tasks in our research, including:

- to consider the content of the legal protection of scientific discovery;
- to identify elements of the legal construction of the right to discovery;
- to analyze current problems of protecting the results of scientific activity.

## **2.2. Purpose of the Study**

The purpose of this research is to establish the possibility of applying the legal construction of the right to discovery in modern law.

## **2.3. Research Method**

The methods used in this research are universal scientific research methods (generalization, abstraction, formalization, analysis, synthesis) as well as specific legal research methods (technical, comparative-historical, contrastive-comparative, etc.).

## **3. RESULTS**

### **3.1. The concept of the result of scientific activity in the legislation in the post-Soviet space**

Scientific results traditionally relate to the results of creative activity and are protected by intellectual property rights on a common basis. At the same time, the concept of a scientific result does not coincide with the concept of a protected copyright object or a protected patent law object. Attempts to give a legal definition of a scientific result in the post-Soviet space led to the wording contained in Article 2 of the Russian Law "On science and state scientific and technical policy" [8]: a scientific and (or) scientific and technical result is defined as a product of scientific and (or) scientific and technical activity, containing new knowledge or solutions and recorded on any information medium. The detailed wording of the same concept is contained in article 1 of the CIS Model law on scientific and technical activities [9]. Two criteria are used in the definition of a scientific result:

(1) content: a scientific result is a new knowledge obtained in the course of fundamental or applied scientific research; and

(2) form: the scientific result must be recorded on the media of scientific information in the form of (i) a report, (ii) a scientific article, (iii) a scientific report, (iv) a scientific report on the research work, (v) scientific discovery, (vi) published monograph.

The definition of the scientific and applied result is given in the Model law on scientific and scientific-technical activity according to the same scheme: it is (1) a new constructive or technological solution, an experimental sample, a completed test, development that is implemented or can be implemented in public practice, and (2) which can be presented in the form of a report, outline design, design or technological documentation for scientific and technical products, full-scale sample.

It is obvious that the list of strictly defined sources, where the scientific (scientific-applied) result should be fixed, is intended to somehow formalize the uncertainty of the

content criterion, according to which it is proposed to establish the presence of a scientific result. But, of course, the form of publication cannot be recognized as a qualifying feature of the result of scientific activity in order to establish legal protection of such a result.

### **3.2 Features of scientific results as protected objects of intellectual rights**

The results of creative activity, the content of which are discoveries (new laws of nature, society and thinking), theories, methods, concepts, ideas, principles, systems, are not subject to protection as objects of copyright or patent law (paragraph 5 of article 1259, paragraph 5 Article 1350 of the Civil Code of the Russian Federation).

The results of scientific activity can be recognized as intellectual property, and in this case, they are protected by (1) patent law as an invention or utility model and (2) copyright as a work of science.

### **3.3. Protection of scientific results by patent law**

The results of scientific activity are subject to state registration as objects of patent law, and this is confirmed by the grant of a patent. The applicant must file a patent application with the patent office to recognize the exclusive right to an invention or utility model. Applications are examined by the patent office for compliance with the criteria of novelty and industrial applicability (in addition to meeting the criteria of inventive step, if the application is filed for a patent for an invention). It would seem that the indication of novelty in the legal definition of a scientific result implies that such a result is ready for patenting.

However, inventions and utility models are the results of scientific and technical activities (article 1349 of the Civil Code of the Russian Federation), which can be recognized as objects of patent law only if they are technical solutions related to a product or method (for an invention – article 1350 of the Civil Code) or technical solutions related to a device (for a utility model – article 1351 of the Civil Code). Therefore, the results of scientific activities in the field of humanities and social sciences do not have a chance to obtain patent protection. Russian researchers emphasize that even in natural science research, as a rule, it is a question of describing, explaining, and theoretically understanding natural phenomena, which in themselves are not patentable technical solutions. We can talk about such fundamental scientific research "at best about discoveries" [5]. Mention of the discovery is not accidental in this context. The concept of the result of scientific activity is broader than the concept of objects of patent law.

It is the number of filed applications for the grant of patents that is considered an important indicator of the effectiveness of scientific work at present. But the relevance of this indicator is doubtful even for the sphere

of scientific and technical creativity. The lack of a direct connection between science and invention is traditionally emphasized in legal studies: “An inventor usually goes a bit ahead of a scientist ... A patent is not intended to be a scientific treatise at all” [10].

It is equally traditionally believed that abstract scientific theory is not subject to patenting without realizing it in real forms as a concrete thing. The fact that in the legislation of many countries of the first half of the 20th century patents for new chemicals were not granted at all [11] was a consequence of this approach. Patent law softened its requirements in the future, taking into account the needs of the food and medical industries. But the general focus of patent law, which is not able to protect fundamental scientific research in most cases, remains the same. R. Pozner points out that, on the one hand, “ideas that patent law refuses to protect are those ideas that are born in the course of fundamental research; they are not useful for patent law”, but, on the other hand, “granting a patent is a weak method of encouraging basic research, since by definition the results of such research will not immediately begin to be used and applied” [12].

### **3.4. Copyright protection of scientific results**

Any work is protected by copyright if it is original (which is often understood as uniqueness). However, works of science (publications in which the result of scientific activity is expressed) are often not original. The very essence of scientific works is the reason for this. The results of scientific activity occupy a special place among the results of creative activity, because, as O.S. Ioffe pointed out, the main purpose of science is not to describe the phenomena it studies, but to discover the objective laws that govern these phenomena [1].

Works are considered as scientific works if their problems are developed in accordance with the requirements of scientific methodology, while the author of the scientific work is bound to a large extent by the principles that prevail in this field of knowledge, chronology, distinctive manner of presentation, immutable stencils in cases where it is about well-known things or issues about which there are no differences [13]. And it is these very standards that define a number of requirements for the form (structure, language, appearance) of a scientific work, in some cases deprive it of the necessary uniqueness, which is a condition for granting copyright protection, that is, works of science in some cases generally remain outside copyright protection.

A work of science is the result of creative activity, but the content of works of science only reproduces reality. In this sense, the author qualifies it as a discovery, that is, the knowledge of objectively existing. These discoveries can be made by any other researcher, and therefore do not express the personality of the author himself, his spiritual world and, accordingly, cannot contain signs of individuality and originality and be considered the result of creative activity from the point of view of copyright [5].

It is necessary to maintain the condition of “originality” for works of science in order to preserve copyright protection for scientific results. For these purposes, the theory is forced to make numerous reservations for scientific results. So, it is proposed to consider that originality is manifested in scientific works in the selection of elements, details and form of expression [13].

It is significant that attempts to preserve copyright protection over works of science (through the sign of “originality”) lead to the fact that the focus was not on the property logic of the monopoly on the work (which is ensured by the exclusive right), but on the relationship of the work with the personal non-property interests of the author [5].

### **3.5. Problems of legal protection of scientific results**

The previous presentation makes it possible to draw a conclusion about the inadequacy of the existing legal regime for the protection of intellectual property in relation to scientific results.

The existing dichotomy “copyright” – “patent law” does not contribute to the establishment of adequate legal protection for scientific results, also for the following reason. Legal protection of various results of intellectual activity is based on the fact that patent law protects the content of a technical solution (idea), and copyright protects only the form of the work, but not its content. But the indication of novelty is present in the legal definitions of the scientific result given above, not by chance. Therefore, both the originality of the form and the novelty of the content are required simultaneously in the professional assessment of the significance of a work of science (for example, when defending a dissertation). The content (scientific idea) of the results of scientific activity seems to be much more important than the unique form of expression (verbal, graphic, etc.). The doctrine of “merging ideas and wordings”, contrary to the tenets of copyright, was the result of recognition of this provision. This doctrine allows you to copy copyrighted language without permission, when copying the language is the only way to convey the idea [12].

Moreover, most scientific ideas are not unique and individual in terms of content (which is the main value in scientific works), and these ideas can be “discovered” by any scientist who has the necessary qualifications, abilities and capabilities, that is, ideas relate to categories of fundamentally repeatable based on currently available standards and methods of activity in a certain field [5].

In general, the following problems of legal protection of scientific results were revealed:

- 1) The concept of a scientific result is broader than the concept of a protected intellectual property object.
- 2) Content is valuable in a scientific result, but the content is not protected by copyright. The content is protected by patent law, but scientific results are often not truly patentable because they lack utility.

- 3) The center of gravity in matters of legal protection of a scientific result is transferred to the sphere of personal non-property rights of the author of such a result.
- 4) Often, to show the difference between a scientific result and protected objects of copyright and patent law, a scientific result is qualified as a discovery.

### ***3.6. Legal protection of discovery in the legislation of the USSR***

The problems of protecting the results of scientific activity led in the XX century to the development of the legal structure of the right to scientific discovery.

The right to discovery was legally established only in the USSR. Special sections devoted to technical creativity appeared during the second codification of Soviet civil law in the Fundamentals of civil law in 1961 (articles 107-116) and in the Civil Code of the RSFSR in 1964 (articles 517 – 526). Detailed regulation of the right to discovery was provided for in the by-law – the Regulation on discoveries, inventions and innovation proposals, approved by the government of the Russian Federation, in resolution of the Council of Ministers of the USSR of April 24, 1959 No. 435.

The establishment of previously unknown objectively existing laws, properties and phenomena of the material world was called discovery. Geographic, archaeological, paleontological discoveries, discoveries of mineral deposits and discoveries in the field of social sciences were not the subject of legal protection. Thus, those discoveries in fundamental sciences that, at least at the initial stage, might not have any practical application at all, were subject to legal protection – and Western researchers declare this “the most interesting feature of the Soviet system of copyright certificates” [4].

Special personal non-property rights of authorship and priority were established for the discovery, as well as property rights were established for remuneration. The novelty, reliability of the discovery, and compliance of the discovery with such a criterion as “radical changes in the level of knowledge” were considered criteria for the protection of this object. The right to open was confirmed by a diploma [3]. The right to receive the diploma of the deceased author and the right to receive remuneration were inherited.

Discovery as a result of scientific activity was characterized by the fact that it leads to the formation of a new scientific concept [1]. Thus, the right to discovery protected the content of the idea. Since ideas are repeatable (they occur to several people in the process of parallel independent creativity), the priority of the discovery could only be set at the first application for registration of the discovery. In this regard, the Geneva Treaty on the international registration of scientific discoveries was signed in 1978, which, however, did not enter into force. The specified international treaty did not gain the necessary number of participants who ratified it, and this meant that the right to discovery did not receive support at

the global level. The right to discovery is absent from the modern Russian legislation.

Opposite assessments of the Soviet experience in introducing legal protection of scientific discovery are present in Russian legal science now. Some scientists believe that the system of registration of scientific discoveries was not accepted by the community due to the ineffectiveness of this system; in addition, legal protection of scientific discoveries is not necessary, because “the description of the discovery in a scientific article protected by copyright, and will fix the scientific priority for the publication of this discovery” [2]. Other scientists believe that in modern Russia there is a need to restore the legal protection of discoveries, because this will contribute to the development of basic research and the modernization of the economy of our country [3].

Some Western observers during the Cold War believe that the right to discovery was “one of those exclusively Soviet institutions that made sense only in a centralized socialist economy”, created because of the “super-patriotic need to win national leadership in science” [15]. This view is partially true. But, firstly, it must be borne in mind that the struggle for primacy is the result of any system based on the need for state registration of the result of intellectual activity (establishing priority is the purpose of registration). And, secondly, the very idea of the right to a scientific discovery was born after the end of the First World War nevertheless not in Russia, but in the scientific circles of Western Europe [16].

### ***3.7. Legal model of the right to discovery***

Let's digress from emotions and consider the purely legal aspects of the legal protection regime for discovery. The scientific discovery was not simply delimited from the objects of copyright and patent law. The regime of a separate and independent object of creative relations was created for discovery. Thus, the need for legal support of the new civil rights object dictated the emergence of the right to open. Soviet legislation proposed an independent legal protection system for the discovery. In modern conditions, this system deserves attention only as a model of a special right to a scientific result.

The right to discovery has the following features as a legal model:

- 1) The right to discover protects the content of the scientific result, which is not patentable by virtue of its fundamental nature. It seems that in this way a fundamentally new approach has been demonstrated, allowing to resolve the main contradiction of the protection of the scientific result by traditional means of intellectual property law (when the work is subject to legal protection, but not the form of the work, but its content is subject to protection). That is why it must be recognized that the discovery qualifies as a completely new result of creative activity.
- 2) The discovery is such a result of creative activity in respect of which its author acquires only personal non-property rights. These rights belong to intellectual rights: a

kind of copyright was assigned to the author of the discovery. This right meant not only the right to be considered the author of the discovery, but also that the name of the person who made the discovery should have been indicated in connection with this discovery (for example, when mentioning the discovery in scientific works).

3) The discovery entailed the establishment of the scientific priority of the author of the discovery due to the need for state registration.

4) The establishment of an exclusive right to the discovery was not provided for, i.e. the author had no monopoly on the use of the scientific result.

5) The author of the discovery received a reward. The budget was a source of remuneration in the Soviet system (and the remuneration was very high in comparison with the average income of scientists). The source of payment in this case is not fundamental, the main thing is that the remuneration was paid not for the use of the opening, but in the form of a bonus, an incentive. Such a right to remuneration, being property, is not part of the exclusive intellectual right.

Are there any prerequisites in the modern world for the application of this model of distinctive intellectual rights to the distinctive results of creative activity to be found?

### ***3.8. Current trends in the protection of scientific results***

P.V. Krashennikov points out that discoveries cannot be recognized as a protected result of intellectual activity, since discoveries cannot be protected using the exclusive rights regime [17]. A.L. Makovsky points out that even the term “intellectual rights”, which is new by historical standards, should be recognized as conditional, since “intellectuality” is not a unifying feature of the results of creative activity and means of individualization; the legal construction of exclusive law is the valid basis on which an independent sub-branch of civil law arose, exists and develops [18]. Thus, intellectual property legislation is built around the world to ensure the monopoly of the holder of the exclusive right to diverse intangible objects, including scientific results.

How does this situation correspond to the realities and needs of modern scientific activity?

European legal science has long articulated the position that termination of the author's property rights on scientific works, preserving the moral rights proposed to be linked with the moment of promulgation. A. V. Kashanin rightly believes that it is, in essence, about creating an alternative system for the protection of substantive intellectual products whose logic is different from copyright. The Central element of such a system is not the concept of a property monopoly on the use of a work in the form of its reproduction and distribution, but the protection of the author's personal non-property interests (in particular, his interest in recognizing him as the author (discoverer)

corresponding scientific knowledge, its honor and dignity) [5].

This shows that the property component in the intellectual rights to a scientific result is not dominant, since the essence of scientific activity is not reduced to the commercialization of its results. Non-property rights to the results of scientific activity become priority. Originally born as a “publisher's right”, copyright became a full-fledged institution of civil law only after the spiritual activity, “moral rights” of the creator were recognized; therefore, copyright was considered at the beginning of the 20th century as a manifestation of the protection of the spiritual side of the human person [19]. The distinction between patent and copyright law was made, among other things, according to the purpose of the result of intellectual activity for commercialization. It was declared that the result of non-material interests in the sphere of “industrial property” creates certain economic advantages for the subject in its commercial and industrial activities (firm reputation, client stability, etc.), while the result of the same non-material interests in copyright is only moral and spiritual satisfaction (fame, glory of authorship) [11]. In modern literature, A.S. Vasiliev believes that copyright, appearing as a tool to encourage the creator, has now completely turned its back on him, and the exclusive right, which was intended specifically for the creative person, is currently used by businesspersons who have nothing to do with creativity. A.S. Vasiliev concludes that the legislation on intellectual rights should be organically aimed at stimulating the author to create such a result, but not at all on the prosperity of various kinds of corporations [20].

Today, researchers most often not only do not receive income from their scientific works (which should have been vested with their exclusive copyright), but also pay the cost of publication. Back in 2009, a large group of leading world-class scientists issued the Manchester manifesto “Who owns science?” [21] Researchers call for modernization of the innovation incentive system. It is indicated that the exclusive right regime is not the only possible option for regulating relations in the field of scientific developments. On the contrary, it is concluded that in modern conditions there is a whole range of alternative institutional solutions: from those based on the current model of intellectual rights, to the bonus system and prize funds to completely open systems of free access. This approach finds a hot response from some Russian researchers [6].

The idea of a free access system is gaining a legal profile today. The Open Access 2020 initiative (OA2020) received official support at the European Union level. The translation of publications of all research results carried out at the expense of state funds into open access by 2020 is the objective of the OA2020 project instead of the existing subscription system for scientific publications. Ensuring the immediate publication of publicly available scientific articles is the goal of OA2020 so that the costs of their distribution are transparent, fair and economically sustainable [22]. We can talk about a global alliance of academic and research organizations. In 2018, Science

Europe organization launched Plan S, detailing the OA2020 Initiative, thanks to its 10 principles.

Some Russian researchers consider the OA2020 Initiative and Plan S a challenge for Russia, as there are fears that Russia may lose its chance to quickly transform its journal communications system in the context of abandoning a subscribed business model and moving to subsidizing open access to research results [23].

We can emphasize the following principles of Plan S:

- Authors retain the rights to their scientific works without any restrictions, which should be published on the basis of open licenses (principle 1).

- The cost of open access publications will be covered by foundations or universities, but not by the researchers themselves, where appropriate. It is recognized that all scientists should be able to publish their work in the public domain, even if their organizations are limited in means (principle 4).

- Universities, research organizations, and libraries have built their OA policies and strategies appropriately, especially regarding transparency (principle 6) [24].

Thus, the OA2020 Initiative and Plan S propose to change, by individual expression of will, the general legal regime provided for copyright objects. Indeed, publication on the basis of open licenses means the author's refusal to exercise his exclusive right to a work. This is only the first step towards creating an alternative system of legal protection of the results of scientific activity. Outside the framework of the proposed reform, there remains the scientific result itself, which does not meet the requirements of the object of both copyright and patent law, as we showed in the article. But B.S. Martynov wrote prophetically back in 1938 that "in conflicts arising in the scientific community, cases are clearly reflected in which the facets of copyright in a scientific and literary work and inventive law are erased. In their place is copyright for scientific discovery or scientific achievement" [25].

The legal protection of the discovery was complex, taking into account the features of the scientific result, where the rejection of the exclusive right to the result was only one of the elements. It seems that the legal model of the right to discovery is in line with modern trends in creating a new system of legal protection of the results of scientific activity. The time to use this model has come.

#### 4. CONCLUSION

The legal construction of the right to discovery can be reclaimed in modern conditions for modeling special rights to a scientific result. These special rights are included in the system of intellectual rights (intellectual property), but occupy an intermediate position between copyright and patent rights to the result of intellectual activity. External scientific discoveries, theories, methods, concepts, ideas, principles, systems, etc. should be considered the subject of a right to a scientific result. Legal protection of a scientific result includes:

- 1) protection of the content of the result;

- 2) the author does not have an exclusive right to the result, which means that the work containing the scientific result is freely available;

- 3) whether the author has the result of personal non-property rights: authorship rights and the right to require his name to be indicated in connection with the scientific result when mentioning the scientific result in works of science and in other cases.

#### ACKNOWLEDGMENT

The present study is implemented with financial support from The Russian Foundation for Basic Research in the framework of scientific project № 18-29-15016.

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