

ТЕОРІЯ ТА ФІЛОСОФІЯ ПРАВА

УДК 340:167

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ON THE ROLE OF THE LOGICAL METHOD OF KNOWLEDGE IN SCIENTIFIC AND LEGAL RESEARCH

<http://doi.org/10.23939/law2022.33.022>

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Research is conducted among all branches of legal sciences. Research and development work is included in the concept of “research”. Research is the process of collecting, analyzing, and interpreting information to answer questions. To qualify this process as research, it must have certain characteristics: it must, as far as possible, be controlled, systematic, valid and verified, empirical and critical.

Each industry uses scientific research methods in different quantities and different fields. The role of logic in research is key because it helps to draw sound conclusions. The logical result in scientific research is the use of the method of cognition, in particular its methods. Among them is analysis, synthesis, deduction, induction, hypothesis, abstraction, analogy, generalization, modeling, idealization.

The article investigates the application of the logical method of cognition and its methods in scientific and legal research. The components of this method are analyzed, in particular, the methods of analysis and synthesis, which are often used by scientists informing the literature base of the study. Special emphasis is placed on the role of induction and deduction in the formation of logically sound conclusions. It is noted that induction and deduction are closely related – using the inductive course of reasoning, researchers accumulate and summarize empirical material, and in the deductive movement of reasoning gain reliable knowledge by substantiating the conclusions obtained during inductive reasoning. Thus, the hypothetical nature of reasoning decreases, they become reliable knowledge.

The article highlights Kant's arguments about the need to use generalization in research. Emphasis is placed on the meaning of analogy as a “problem of universals”, which is present in the philosophical views of Platon and Aristotle.

The works of modern scientists who study the methodology of law and the organization of scientific research are analyzed.

Key words: logic, logical methods, scientific research, method of cognition, reception, methodology of law.

Formulation of the problem. The methodology of scientific research distinguishes, among others, the logical method of cognition, which consists of techniques. Among these techniques, we note analysis,

synthesis, deduction, induction, hypothesis, abstraction, analogy, generalization, modeling, idealization. The logical method of cognition is that it is aimed at the study of objects that deal with the subjects of cognition in different types of cognitive activity.

Analysis of the study of the problem. There is a large amount of special literature in which the authors substantiate a particular concept and steps of the methodology. A. Konversky, V. Lubsy, T. Gorbachenko, D. Kerimov, A. Grabchenko, V. Fedorovich, Y. Garashchenko reveal in their works how to achieve depth and quality in scientific work, understanding of subtle aspects, in particular the scientific part of research methodology, M. Cohen and E. Nagel and others.

However, in modern scientific research on the application of the logical method of cognition, there is some confusion about its components – techniques. The approach in the perspective of cognitive activity can be interpreted as an integral part of the method of cognition, as it helps to carry out cognitive procedures to obtain certain knowledge.

The article aims to outline the importance of the logical method of cognition and its methods in scientific and legal research. Each industry uses its own specific scientific, special methods, due to the nature of the subject of study. However, often the methods specific to this science are used in other sciences. This is due to the fact that the subjects of these sciences are also subject to the laws of this science. The logical method of cognition, together with its techniques, is characterized by intersectoral significance. Using the logical method of cognition, scientific theorists obtain new concepts, opinions, conclusions, which are recorded in scientific works.

Presenting main material. A component of the logical method of cognition is the reception of analysis. *The analysis* is that the problem of the study is broken down into smaller elements, which are carefully analyzed (each separately) and at the stage of completion of the study, the obtained data are combined into a logical whole. After analyzing the original data, the researcher gets a new whole that can offer the best solution to this problem [1, p. 18]. Quite often, scientists resort to this technique informing the literature base of the study. Analysis of the scientific literature is one of the most important tasks before the start of scientific research. Studying existing literature can be time-consuming, challenging, and frustrating, but it is necessary. A literature review is an integral part of the research process and makes a valuable contribution to almost every stage of work. In the initial stages of research, analysis helps to establish the theoretical foundations of research, clarify ideas and develop research methodology. Subsequently, in this process, the analysis will serve as a basis for expanding the knowledge base and help to conclude with the existing amount of knowledge. Analytical review of the literature performs the following functions: provides a theoretical basis for research; helps to establish links between what has been researched and what needs to be researched.

With the help of analysis, the whole legal reality can be divided into constituent parts. Examples are the rules of law, legal relations, legal facts, which in turn, in the process of analysis may also be divided into certain constituent elements. Each element, however, is studied independently. Subsequently, with the help of *synthesis*, all parts are united mentally in the whole interaction in a holistic image.

To integrate research results into the existing body of knowledge, as well as to show the contribution of conclusions to the existing scope of scientific research, scientists use the method of synthesis. In the Great Ukrainian Encyclopedia, the definition of synthesis is outlined by a list of essential features: a combination of disparate knowledge about the object, its parts and properties, and its reflection as a whole, interconnected system, the process of formation (assembly, construction) of an integral object [2].

In the monograph “Methodology of Law” by Kerimov D. A. the whole chapter entitled “Whole and Part” is devoted to the methods of cognition of analysis and synthesis. Analysis and synthesis are always used in pairs. With the help of analysis, scientists determine the structure of the whole and the structure – through the whole. It is impossible to separate the whole from the structure, or the structure from the

whole. The universal nature of the whole is that its components are combined both naturally and artificially; both objective, natural, and subjective, arbitrary moments; by qualitative and quantitative characteristics. For example, the author points to the incorporation of legal acts in the chronological order of their publication, which is a holistic summary of legislative material at the level of simple organization [3, p. 218–219].

One of the components of logic is the theory of deductive and inductive arguments. In the textbook “Fundamentals of Methodology and Organization of Research” induction is defined as a logical method of cognition, which is associated with the generalization of the results of observation and experiment and the movement of thought from individual to general. The authors of the textbook argue that inductive generalizations are problematic (probabilistic) because the experience is always infinite, so inductive generalizations are considered as research truths or empirical laws [4, p. 32].

The essence of *the deduction* is the movement of reasoning in the process of cognition from general to individual. The logical conclusion is also based on the deductive course of reasoning – the transition from proposals to their consequences. The example here is the death penalty as a common legal phenomenon. Its presence or absence in certain countries of the world, implementation, pros, and cons – are components of specific legal phenomena. Induction and deduction are closely related. The authors of the textbook “Research Methods” note that the difference between induction and deduction is in the opposite direction of thought. *Induction*, accumulating, and generalizing empirical material, creates a basis for making assumptions about the cause of the studied phenomena, and deduction, theoretically substantiating the conclusions obtained by induction, reduces their hypothetical nature and turns it into reliable knowledge [5, p. 27].

An important method of cognition in the formulation of a research problem is to put forward a hypothesis. *The hypothesis* brings clarity, specificity, and purposefulness to research work, but is not required for research. It is possible to conduct research work without building any formal hypothesis. In the academic explanatory dictionary of the Ukrainian language, the concept of “hypothesis” provides the following list of essential features: scientific position, conclusion, which explains certain phenomena of reality based on assumptions [6].

As mentioned above, the importance of the hypothesis lies in its ability to clearly define the direction of scientific research. The hypothesis tells the researcher what specific information to collect, and thus helps to focus the researcher's attention on a specific issue. If, for example, the topic of research is to identify the causes of juvenile delinquency, then to study all the possible causes will require a huge amount of time and resources. To narrow the choice based on knowledge in the field, the scientist can determine what is the most likely cause of this phenomenon. Subsequently, you can create a study to gather the information needed to test the assumption. If the test concludes that the presumed cause was the real cause, the hypothesis will be considered valid.

Theoretically, there should be only one type of hypothesis, namely, the research hypothesis as the basis of research. However, due to the conventions in research and formulations used in making assumptions, hypotheses can be divided into several types, namely, research hypotheses and alternatives.

The formulation of an alternative hypothesis is a common phenomenon in research. The main function of forming an alternative hypothesis is to identify the relationship that will be considered true if the research hypothesis is incorrect. In a sense, the alternative hypothesis is the opposite of the research hypothesis. Morris Kohen and Ernest Nagel in their thorough scientific work “An introduction to logic and the scientific method” in the section “Hypotheses and scientific method” note that the number of hypotheses that can be formulated by the researcher is not limited and depends on his imagination. And, according to the authors, it is always convenient to have in stock several different hypotheses, the consequences of which would be studied in detail [7, p. 531–532].

Abstraction is one of the main mental operations, as well as the method of cognition, which allows you to imaginatively identify and turn into an independent object of consideration of certain aspects, qualities, or state of the object in its purest form. Abstraction underlies the processes of generalization and

creation of concepts, which is the driving force behind the development of scientific research. In the scientific work “Methodology” by Novikov A. M. and Novikov A. D. it is noted that one of the main functions of abstraction is to highlight the general qualities of a set of objects and to fix these qualities, for example, through the concept [8, p. 104].

In general, all theories use abstraction from a specific subject area. It is impossible to cite any rule according to which it would be possible to abstract specific aspects of the subject area and study them separately from other aspects. However, as Morris Kohen and Ernest Nagel point out, due to the goals of science, namely obtaining a systematic relationship of phenomena, in general, it is those aspects that determine the possibility of achieving this goal [7, p. 536]. Scientific research cannot do without generalizations, without abstractions, which are an ideal-generalized model of the studied objects. I. Kant also emphasized the influence of thought processes on the forms of sensory perception of objects “... every experience has in itself, in addition to sensory contemplation, also the concept of the subject of study. Therefore, the basis of reliable knowledge is the concepts of objects in general, as well as a priori conditions; it follows that the objective meaning of categories as a priori concepts should be based on the fact that experience is possible only with the help of the concept of the subject in general” [9, p. 187–188].

The use of analogy as a method of cognition depends on the perception of similarities and the ability to sort them according to purpose. Usually, certain groups of ontological, epistemological, and linguistic problems are grouped as the “problem of universals”, which is present in the philosophical views of Plato and Aristotle. *Analogy* in legal practice is used as a specific method of resolving state bodies and officials of legal issues that are regulated by law. If such cases occur, the decision in the case is made based on general principles, basic principles, and content of the relevant branch of law or law in general. Researcher of methods of scientific cognition and logic K. Zhol divides the analogy in jurisprudence into two types – the analogy of law and the analogy of law. The analogy of the law, according to the scientist, is the solution of the case based on the law governing similar relations with the considered. The analogy of law is a decision based on the general origins and content of legislation [10, p. 68].

Generalization is a thought process that involves drawing broad conclusions from specific observations. The process of generalization is the basis of all scientific work, the main attribute of scientific knowledge as the goal of science. From some observations, the scientist concludes with more general formulations that will be extended to future situations. Scientist Karamisheva NV notes that in legal cognition the method of generalization is used in the form of generalization of professional experience based on analysis of specific cases, as well as generalization of empirical, sectoral theories of law [11, p. 40].

Modeling belongs to the cognitive process and consists in obtaining knowledge through certain actions with the object under study. However, these actions do not concern the object of knowledge itself, but its model in the imagination. Legal modeling is widely used in law-making activities, which consists in the development of scientific concepts, standard drafts of legal acts, etc. The scientist I. Dutsyak claims that the use of modeling techniques makes it possible to set the goal of achieving the best results and avoiding the worst [12, p. 23]. The application of modeling in research allows a generalized approach to solving many legal problems. In legal science and practice, quite often there are complex phenomena, the direct study of which is impossible. The use of imaginary models of phenomena will clarify the patterns between facts and events. For example, the scientist H. Kmetyk-Podubinska uses legal modeling in constitutional and legal research. In a scientific article devoted to this study, the researcher notes that in the course of constitutional and legal research modeling is often implemented in forecasting, and can be used as an element of legal monitoring as a system of a comprehensive assessment of preparation, adoption, and forecasting of legislation. In conclusion, the author argues that being in a close systematic connection with other research methods, the modeling method helps to expand the horizons of legal knowledge, to obtain significant conclusions for the theory and practice of law not only on imitating the legal behavior of subjects but also on creating new ones. and corrections of existing legal norms and institutions [13].

Much of modern science is based on the use of ideal models. In methodology, this process is called idealization. *Idealization* is used by scientists for many purposes. Most often, this technique is used for representative or explanatory purposes. Idealizations come in many forms, including abstractions, approximations, and fiction. Due to the widespread use of idealization in scientific research, philosophers of science have recently become interested in understanding their role in scientific practice. Of particular interest are questions about the role of idealizations in scientific representation and explanation, as well as whether idealized models can be considered realistic. Researcher Michael Weisberg from the University of Pennsylvania in his article “Three types of idealization” outlines the main issues that arise when applying idealization in research. Among them: what exactly is idealization?; whether idealization is compatible with realism; Are idealization and abstraction different?; Are their rules governing the rational use of idealization, is only intuition needed, and theorist guides the process [14]?

In scientific research, the technique of idealization is used for the imaginary construction of objects that do not exist in reality. For example, in philosophical and legal intelligence, idealization is used to imaginatively construct categories such as “rule of law” or “rule of law”. It can be argued that the author of “Utopia” Thomas More used the technique of idealization to show the higher value of the artisan organization of the Middle Ages with the features of a family-patriarchal community. Thomas Moore tried to create an ideal state with the characteristics of democratic state power, touched on legal issues and economic development of the state [15].

Conclusions. Logical understanding of the law – a long, complex, and multi-stage path from analysis to synthesis, from deduction to induction, from concrete to abstract, from the definition of law to its practical implementation. An in-depth understanding of the law would be impossible without the use of the method of cognition in conjunction with its techniques. The path of understanding the law begins with ideas about specific legal phenomena through individual facts. In the process of this cognitive activity, the scientist gets the opportunity to delve into the essence of the whole category. Through the use of methods of cognition in research, the legal reality is reproduced in the unity of general and specific patterns of development of legal phenomena. Order to determine the essence of the methods of cognition and their application in scientific research requires detailed study and further understanding.

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Дата надходження: 27.01.2022 р.

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ДО ПИТАННЯ ПРО РОЛЬ ЛОГІЧНОГО МЕТОДУ ПІЗНАННЯ В НАУКОВО-ПРАВОВИХ ДОСЛІДЖЕННЯХ

Наукові дослідження проводяться серед усіх галузей юридичних наук. Науково-дослідні і дослідно-конструкторські роботи входять до змісту поняття “наукові дослідження”. Наукове дослідження – це процес збору, аналізу та інтерпретації інформації для відповіді на запитання. Щоб кваліфікувати цей процес як дослідження, необхідно, аби йому були притаманні певні характеристики: він повинен, наскільки це можливо, бути контрольованим, систематичним, дійсним та перевіреним, емпіричним та критичним.

Кожна галузь використовує наукові методи дослідження у різних кількостях та у різних сферах. Роль логіки у наукових дослідженнях є ключовою, оскільки вона допомагає дійти до обґрунтованих висновків. Логічний підсумок у наукових дослідженнях забезпечує використання методу пізнання, зокрема його прийомів. Серед них аналіз, синтез, дедукція, індукція, гіпотеза, абстрагування, аналогія, узагальнення, моделювання, ідеалізація.

В статті досліджується застосування логічного методу пізнання та його прийомів у науково-правових дослідженнях. Проаналізовано складові зазначеного методу, зокрема, прийоми аналізу та синтезу, до яких доволі часто вдаються науковці формуючи літературну базу дослідження. Окремо акцентовано на ролі індукції та дедукції при формуванні логічно-обґрунтованих висновків. Зазначено, що індукція та дедукція тісно пов'язані між собою – застосовуючи індуктивний хід міркувань дослідники накопичують та узагальнюють емпіричний матеріал, а при дедуктивному русі міркувань отримують достовірне знання, шляхом обґрунтування висновків, які отримують під час індуктивних міркувань. Отже, зменшується гіпотетичний характер міркувань, вони перетворюються в достовірне знання.

В статті виокремлено міркування І. Канта про необхідність застосування в наукових дослідженнях прийому узагальнення. Акцентовано на значенні аналогії, як “проблеми універсалій”, яка присутня у філософських поглядах Платона та Аристотеля.

Проаналізовано праці сучасних науковців, які досліджують методологію права та організацію наукових досліджень.

Ключові слова: логіка, логічні методи, наукове дослідження, метод пізнання, прийом, методологія права.