

## The Paradigm of Law (In Honor of Thomas Kuhn)

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**Abstract.** Thomas Kuhn in his remarkable work "The Structure of Scientific Revolutions" managed to show that the historical approach to the study of changes in scientific knowledge gives other data than is generally considered correct in this science. This important conclusion allows us to investigate the evolution of scientific knowledge, and it is possible and necessary to do this not only in physics (as in Kuhn's work) but also in humanitarian directions or in social sciences.

Understanding the meaning of the term "paradigm" introduced by Kuhn makes it possible to identify those theories that have a significant impact on related fields of knowledge. We will try to show the essential content of the paradigm, the scientific community from the positions of T. Kuhn and other scientists of philosophers and sociologists, and also we will perform some analysis of the application of these concepts to the science of law.

### 1. Introduction

T. Kuhn's interest in history of formation of science as process has made him the author of the first methodological concept which has gained world recognition. Though Kuhn was physicist-theorist, his interest in science history on the example of physical opening has been noticeable even during training in a postgraduate study when he has found out that the predominating ideas of science and ways of its development significantly differ from real historic facts. Such contradiction couldn't but attract his interest in more careful studying of history. Kuhn on concrete examples showed how there was an establishment of the new facts, ways of submission of new theories and a way of their recognition as new scientific directions. Though T. Kuhn's work addresses more often examples from physics history as sciences, nevertheless, his ideas of ways of development of the scientific directions can be applied also to other sciences, in particular, to the law. Feature of the law as sciences (unlike physics, for example) it is possible to call his social character. It is impossible to put an experiment in science of the law and to receive the new theory. The theory birth in the law is subordinated to other forms of realization of scientific knowledge, in particular, due to the social nature of the law, this form is institutionalized in society, accumulating supporters gradually, on the basis of precedents of realization of such norms. Here some similarity of science of the law to other "social" sciences – economy, sociology, demography, etc. is observed.

In the article we will trace as T. Kuhn offers a way of the creation of a paradigm, a method of formation of scientific community and also we will show partial realization of his ideas in the law.

## 2. Materials and methods

Obviously, an important concept in the T. Kuhn's theory is a paradigm. Still Kuhn's theory has aroused the keenest interest of researchers [4, 13, 17, 19]. Some researchers suggest that "the content of this concept was not completely clear, however in the first approximation it can be said that the paradigm is a set of scientific achievements recognized by the entire scientific community in a certain period of time". It is possible to agree only partially with the statement because Kuhn provides a detailed explanation of the paradigm in his work, although, perhaps, overly detailed, which gives the opportunity to assert about the uncertainty of the substantiation. This approach is typical for modern researchers, when a clear definition is the basis for recognition of fact of the terminological definiteness of a particular phenomenon, but at the same time, a detailed description of the same phenomenon without delineation (for example, in bold) of the essence of the phenomenon explained becomes the basis for accusations of ambiguity of the essence of the phenomenon. We still assume that the category of the paradigm in Kuhn's work is theoretically justified and sufficiently clear. We accompany the statement with the text from the primary source: "Its creation (classical works of scientists - note V.O.) was sufficiently unprecedented to attract a group of supporters from competing directions of scientific research for a long time. At the same time, they were open enough that new generations of scientists could find unsolved problems of any kind for themselves in its framework... Further I will refer to achievements that have these two characteristics as "paradigms"[14]. What here can be incomprehensible? The two characteristics, that achievement must satisfy, can be called a paradigm. But then Kuhn makes a number of remarks that make one wonder whether the explanation given at the beginning is clear, whether the obvious boundaries of the research object are delineated in such a way that one can speak of its isolation in the structure of reality. He notes that "the formation of a paradigm and the appearance of a more esoteric type of research on its basis is an attribute of the maturity of the development of any scientific discipline". Now we can agree that the clarity of the concept of the paradigm is ambiguous. Esoteric type of research as an attribute of the maturity of a scientific discipline can reduce the level of clarity of the concept of the paradigm given at the beginning of the paragraph. However, in this case it is possible to give an explanation, in particular, to the esoteric type of research. Since Esotericism (from the Greek, ἑσωτερικός - internal, esoterics) - an aggregate of knowledge, information that is not available to non-dedicated, ignorant people of mystical teachings, then the esoteric type of research is a method of scientific search through an aggregate of knowledge that is not available to non-dedicated people. Then it becomes clear what Kuhn meant by talking about the formation of a paradigm and the appearance of a more esoteric type of research on its basis; he meant the unprecedented achievement that attracted supporters from other areas of scientific research, which corresponds to the first characteristic of the paradigm and does not cause confusion in perception. Moreover, he notes that: "in mathematics and astronomy research reports have ceased to be understandable for a wide audience already in antiquity" [14]. In this way, some elitism of scientific knowledge is normal for the formation of a paradigm.

He continues: "His (Franklin – note V.O.) success in this explanation gave him the most effective arguments, that made his theory a paradigm, albeit it was still unable to fully cover all known cases of electrical repulsion" [14]. This implies that the theory that, although it has the most effective arguments, can also become a paradigm, but it does not completely cover all aspects of this theory or the phenomena observed through it. The question arises: how to distinguish the paradigm, or how to identify the paradigm among competing theories, if the arguments are effective, but the scope of the phenomena is incomplete? Of course, we can take into account the fact that scientists of competing directions can conduct approximately similar experiments, but they can get different conclusions at first glance, but this may be a consequence of the fact that scientists paid attention to different aspects of the observed phenomena during the experiment. They decided to put various observable phenomena in the basis of the proposed theories and received different conclusions, although they discussed the same experimental phenomenon. This hypothesis allows us to agree even more with Kuhn regarding the formation of the historical foundations of scientific discovery, examples of which the book is fraught (for example, about the understanding of light). Besides, incomplete coverage of the paradigm of all

aspects of the theory can be the basis for confirming the second characteristic of the paradigm - openness of the theory to new generations of scientists who could find the field of scientific activity for themselves within the framework of this theory (a recognized paradigm). In this case it is appropriate to recall also interdisciplinary studies, which are usually based on the paradigm, but its basic laws are applied to other scientific theories, theories of other areas of scientific knowledge (for example, the laws of physics in economics, biology in cybernetics, etc.). Another important attribute of the paradigm is contained in the thesis: The new paradigm assumes a new, more precise definition of the field of research. In this way, the appearance of the paradigm defines clear boundaries of the field of research, which is justified, since the transformation of theory into a paradigm reduces the importance of competing theories, and at the same time extends and delineates the field research of the paradigm.

### 3. Results

However, it is important to note that the paradigm has the most effective arguments in its favor in comparison with other competing theories, so this allows to distinguish a paradigm from a set of theories. It seems that Kuhn confuses the reader with the following statement: "... the kind of scientific research without paradigms or at least without such definite and obligatory paradigms is possible" [14]. How is this possible: scientific research without a paradigm? A careful reading of the first definition gives an answer to this question. The paradigm "grows" from a theory, which compete with other theories of a similar direction. At some point in time one of the theories turns out to be leading and turns into a paradigm. This period of time can be fully determined by obtaining a critical mass of effective arguments. The critical mass of effective arguments does not appear simultaneously (in most cases), but accumulates with each new experiment or theoretical research of the scientist. When an individual scientist can accept a paradigm without proof, he does not have to rebuild the whole area in his work from original principles, and justify the introduction of each new concept. This can be provided to authors of textbooks. However, very subtle remark lies behind satire: knowledge accumulates gradually, and with the onset of a critical mass of effective arguments, competing theory becomes a paradigm. It is important to note that paradigms acquire their status because its use leads to success rather than the use of competing ways to solve certain problems. Thus, the critical mass of effective arguments makes the theory most convenient for obtaining success, which, in turn, leads to the transformation of such a theory into a paradigm. It is worth mentioning another definition given by Kuhn regarding the clarity of the notion of the paradigm: "... the concept of the paradigm means an accepted model or pattern" [14]. Thus, one of the most important characteristics of a paradigm is its ability to be a leading model or model for further research. Young scientists, who are involved in the development of the paradigm, use it to solve their problems, however, in this way they contribute to the strengthening of the paradigm. Kuhn proposes to call just such a contribution a normal science: "research in normal science is aimed at the development of those phenomena and theories presumably, whose existence the paradigm initially assumes" [14]. At the same time, by concentrating on a small area of esoteric problems, the paradigm forces scientists to explore a certain fragment of nature in such detail and depth as it would be unthinkable in other circumstances. In our opinion, the last statement particularly reflects the essential characteristic of the paradigm from the position of the author. It is important to note that recognition of theory by scientists as a paradigm is not necessary for the application of this theory as a paradigm in its research. So, the fact that the theory is called paradigm is not necessary for the theory to be a paradigm: "Scientists proceed in their work from models learned in the process of learning and from their subsequent presentation in the literature, often without knowing and without any need to know what characteristics gave these models the status of the paradigms of the scientific community" [14].

An important clarification is contained in the following conclusion: although the new paradigms rarely or never have all the capabilities of their predecessors, it usually retains a huge number of the most specific elements of past achievements and also always allows additional specific solutions to problems. This is very important, because it shows that the paradigm grows out of one of the competing theories, but on the basis of previously obtained achievements. In supplements to the book, Kuhn

offers additional characteristics of the paradigm: “this is what unites the members of the scientific community, and, conversely, the scientific community consists of people who recognize the paradigm” [14]. The combination of concept of the paradigm and the scientific community that recognizes the paradigm leads us to the need to understand what the scientific community is in the T. Kuhn’s theory.

The concept of the scientific community is more understandable, however, it still needs to be explored from the standpoint of T. Kuhn’s theoretical developments. For example: “scientists, whose scientific activity is built on the basis of identical paradigms, rely on the same rules and standards of scientific practice. This community of attitudes and the apparent consistency, that they provide, are prerequisites for normal science, i.e. for the genesis and continuity in the tradition of one or another area of research” [14]. At the beginning of the book Kuhn proposes to investigate the influence of the paradigm on the structure of the group: “...the emergence of the paradigm affects the structure of the group that develops this area of science”. When in the development of natural science an individual scientist or a group of researchers creates a synthetic theory for the first time, that is able to attract the majority of representatives of the next generation of researchers, the old schools gradually disappear. The disappearance of these schools is partly due to the appeal of its members to a new paradigm. But there are always scientists who are loyal to one or the other outdated point of view. They just drop out of the further aggregate actions of the representatives of their profession, who ignore all their efforts since then. The new paradigm also assumes a new, more precise definition of the field of research. And those who are not committed and can not adapt their work to the new paradigm, must move to another group, otherwise they are doomed to isolation. This is the interaction of the scientific community and the paradigm. It should be noted that not only the paradigm affects the structure of the group, but the opposite is true, the group affects the paradigm, more precisely, it turns one of the competing theories into a paradigm by accumulating effective arguments, which is impossible with the absence of scientists who form the scientific community.

It is important to note that the scientific community has a significant influence on the development of scientific knowledge, since some generalizations, to which scientist resorts in order to describe the beliefs shared by the scientific community, will not raise doubts. However, others will seem unclear. When the scientific community does not accept certain theoretical developments (it should be noted that it does not matter whether the author is right or not) the scientific community reacts negatively to such challenges. This behavior is typical not only for our country, in principle any scientific community is objectively conservative because no one wants to break the foundations and question the previously advanced paradigms in order to give way to a new paradigm. This is due to the reluctance to face the fact that many years of scientific life of individual members of the scientific community could be wasted. However, this does not eliminate the problem of adopting a new scientific paradigm by the scientific community. The following statement of T. Kuhn should be recognized as a remarkable characteristic of scientists: “Scientists never memorize concepts, laws and theories abstractly and do not consider this an end in itself. Instead, from the very beginning all these intellectual means of cognition merge in some previously formed historically and in the process of learning unity, which allows to discover it in its application. Note that the scientist takes the previously achieved scientific results in the process of learning and practical application” - he does not memorize them, but applies in his scientific search. When several scientists who work in one direction act in this way, they form the scientific community that becomes more close-knit and unified in its judgments during the creating a new paradigm (obtaining a critical mass of effective arguments), they form a kind of organizational field of scientific knowledge in the framework of the scientific theory that won the competition. The structuralist theory of the organizational field was proposed by the French scientist P. Bourdieu at the end of the 1970s within the framework of the concept of social space. The organizational field is a form of expressing certain relationships that manifest as modes of coordination between the states of the subjects of research [5]. It is necessary to take a closer look at the theory of the field of science. Bourdieu gives this definition: “The field of science as a system of objective relations between the achieved (in the previous fight) positions is a place (i.e. playing space) of competition in which a spe-

cific rate is a monopoly of scientific authority, defined as ... a monopoly on scientific competence". Note that the scientific community that create a new paradigm, forms the field of science and possesses the monopoly on scientific competence, that is, the possibility of judging other research from the position of truth in the last resort. This is important from the point of view of determining of transition of social power in the scientific community because those who manage to win in the competitive struggle of theories and bring their theory to the level of a paradigm get an opportunity to evaluate the theories of their recent competitors and related researchers, then the opinion of the winning scientific community and its representatives will determine the trajectory of the development of new theories and obtaining new effective arguments in favor of the next paradigm. It should pay attention to one more caustic remark of Kuhn: "Although the regrets over the deepening of the abyss, which increasingly divides the professional scientist and his colleagues in other fields, become habitual and quite appropriate, too little attention is paid to the relationship between this process of deepening of the abyss and the internal mechanisms of the development of science". We are forced to recall the earlier argument about the interdisciplinarity of research because during the writing of Kuhn's book specialization of sciences was gaining momentum and his remark was quite appropriate for that period. Currently, scientists have realized that the development of science is possible at the intersection of interdisciplinary research that led to an opposite trend - not a division of the professional community - the scientific community, but a conjunction, a combination of theories from different (non-contiguous) sciences, allows to obtain a new paradigm. Obviously, this has the most direct impact on the scientific community, its structure, forms of existence.

It is worth to recall the following about the combination of different scientists with different in scale contributions to the development of paradigms. Modern sociologist Bruno Latour points out: "However, there is nothing to prove that it is as easy to observe real scientists and engineers as these fictitious dissenters and factor builders, especially when the principles discovered by us point to the opposite" [15]. It is appropriate to recall here that in Russian scientific organizations a certain core of scientists who are prominent representatives of this organization, is being formed, while the rest of the staff are maximum mediocre. It is important to note that the formation of scientific communities forces to institutionalize such structures of supreme power. Examples of such institutions can be factories of thought. P.Dickson argues that "The main function of the "Think Tank" ... is not the conduct of traditional fundamental research, applied research or elaborations - although it usually performs both the first and the second and third - but the establishment of a connection between knowledge and power, between science and technology, on the one hand, and the development of policy in broad areas of interest, - on the other hand... It is more likely to disseminate new knowledge, rather than to create it" [7]. It turns out that the acquisition of new knowledge (confirmation of the dominant role of the new paradigm) is a necessary, but insufficient condition for its recognition due to the significant strengthening of the role of the state in the economy and management science. In the absence of state support, the paradigm can not become the dominant direction in science (for example, Vavilov's theory of genetics was not competitive in comparison with Lysenko's theory not due to the scientific superiority of the second over the first, but due to the availability of a larger administrative resource at the second theory). These theses are especially relevant in relation to the sciences that are subjected to indoctrination (economics, political science, sociology, law and some others).

#### **4. Discussion**

Now it is necessary to dwell in more detail on the principles of the formation of legal paradigms and the legal scientific community.

Physics or rather the history of the development of physics, as an object of research in Kuhn's work, occupies the most significant place in the "Structure of Scientific Revolutions" which is explained by the profile of learning and the academic degree of T. Kuhn. Nevertheless, in his work there are several appeals to the social sciences and even to the law, that makes Kuhn work "possibly universal" in relation to any branch of knowledge. So, Kuhn turns to the jurisprudence: «In science (though not in such fields as medicine, technical science, law, the essential *raison d'être* of which is provided

with social necessity) the creation of special journals, organization of scientific communities, requirements for the allocation of a special course in academic education are related to the adoption of the first paradigm"[14].

It should be recalled that Kuhn is a theoretical physicist by education, so his remark about the exclusion of medicine, engineering and jurisprudence from the process of creation of "special journals, organization of scientific communities, requirements for the allocation of a special course in academic education" is wrongful in connection with the comment of J. Ortega-y-Gasset about the barbarity of "specialism". So, medicine as a science has received its paradigm, at least since the publication of the famous works of Hippocrates [6] and Avicenna [8]. Medical journals, the scientific community and special courses in academic education are as ancient as physics. Jurisprudence was also undeservedly offended by Kuhn's statement, because the journals, scientific community and special courses in academic education also have a long history. However, it is possible in Kuhn's statement there is a hidden meaning that should be extracted, avoiding the literal reading. Perhaps, Kuhn meant medicine and jurisprudence have other foundations for development of the paradigm. This approach allows us to take a closer look at the history of these sciences. Their social character is determined by the nature of the accumulation of a critical mass of effective arguments in favor of turning science into a paradigm. We propose to call this character as "handicraft". The handicraft made it possible to accumulate sketchy knowledge and apply it, coming experimentally to certain regularities. Indeed, both the technical sciences (for example, heating and forging of metal), medicine (methods of treatment of certain diseases in certain ways), and jurisprudence (appeal to sources of law to justify one or another claims) were equally formed as sciences and equally passed the way of forming a paradigm. Similarity with physics is seen in the transition from one paradigm to another (for example, in medicine bloodletting as a method of treatment of hypertension was replaced by the appointment of diuretics, and in jurisprudence - the change in the appeal to divine laws by referring to written laws or precedents). Thus, in our opinion, Kuhn's statement is not entirely correct not in the part of distinguishing between physics and medicine, technical sciences, jurisprudence, but in the part of the above arguments. It is important not to create special journals, academic courses or scientific communities, but a way of forming a paradigm, - through the experience of applying knowledge in the social field.

Since the mention of jurisprudence in Kuhn's work was done once, we are forced to turn to other sources and trace the formation of paradigms and scientific communities in the law and the works of famous jurists will help us in this. Since it is impossible within the framework of our work to reflect the whole set of concepts that form the critical mass of effective arguments that form the paradigm, we will dwell on one of the most important concepts of the common law system - solutions in sole discretion (analogue of which in the Russian law is called legal permission).

Positivists [2], in particular representatives of the common law system in the United Kingdom, borrowed the methods of legal regulation of social relations from the practice of realizing the right of interests of the subjects in everyday life. The concept of solutions in sole discretion is included only in one type of private law provisions: « when someone has to make a decision, obeying the standards established by a certain authority. It is important to note that the duality of legal permission that is typical for Russian law, is not structurally distinguished. It is only the fact that the individual independently makes decisions within the scope of the rights granted. It is important to note that the individual takes decisions within the granted rights, that is, the existence of the right to decide by the individual depends on the amount of rights granted by the state. English law is characterized by the recognition of solutions in sole discretion as a relative concept [3]. Like most legal concepts of English law, the solutions in sole discretion depends on the context of its application. It is necessary to evaluate this method of legal regulation in the context of its use. So, for example solution in sole discretion is used in a "weak sense", when it should be noted that standards, which an official must necessarily comply, can not be applied automatically, that is, it requires a motivated decision from the official. This decision is typical when making judgments about the possibility to conclude a merger/absorption under English law. On the other hand, the solution in sole discretion of an official can have a final character, that is, is not subject to challenge by a higher authority or court. The solution in sole direction in a

strong sense means that the subject of such decisions accepts it not due to limitations established by the authority, but in the framework of reasonableness and fairness. Obviously, a solution in a sole discretion in a strong sense is taken in the absence of regulatory normative frameworks. Distinguished English jurist R. Dworkin gives an example of judicial discretion [1] as the sample of solutions in a sole discretion in the strong sense. G.L.A. Hart proposes to consider solutions in a sole discretion in the following context: some laws require to act in a certain way or refrain from any action, regardless of people's desire... But other legal norms are represented differently in society and perform other functions. It provides people with more or less complex framework for the creation of structures of rights and obligations within the compulsory system of law. These are the norms that allow people to conclude contracts, make wills, organize trusts and develop legal relations with others in general. "If you want to do this, then for this there is a method" [21].

H.Kelsen noted: the concept of the norm indicates that something must be or be done and, especially, that a person should behave in a certain way. This is the meaning of certain human acts, intentionally directed at the behavior of others. And they are intentionally directed at the behavior of others, if they prescribe (order) this behavior in accordance with their meaning but also if they allow it and, especially, authorize, that is, if another person is given a certain power, especially the power to set norms themselves [12]. We see that Kelsen's normativistic concept provides a legal permission as a form of obligation, which, of course, is typical for Kelsen, but, nevertheless, legal permission is considered as a way of regulating legal relations. An obligation also has a subjective meaning "of every human act of will intentionally directed at the behavior of another... the act must have an objective meaning ... then it becomes the norm" [12].

We do not consider it possible, following Kelsen, to build an obligation to the degree of the absolute and are inclined to grant the maximum legal permission to the subjects of law to promote economic development, which, in turn, is impossible without a certain degree of freedom in the implementation of business transactions and financial relations. On the other hand, we should agree with R. Dworkin that the legal permission is not "hanging in the air", but has some limitations by the framework of either the law or the concepts of fairness.

## **5. Conclusion**

In this way, the solution in a sole direction was forming the tradition of English law on the basis of the use of precedents for a long time. Can we identify the paradigm based on this analysis? Rather, yes, because precedent law has had the most significant impact on the development of the legal system of many states (common law system) and continues to provide this impact. Do researchers continue to use the established paradigm to search for individual, perhaps secondary problems within the framework of the paradigm – of course, yes. Is there a scientific community that adheres to the traditions of the precedent law? – of course, yes. Is the precedent law identified as a paradigm in the light of competing theories? – of course, yes. It is important to note that in the law there are two paradigms: precedent (general) law and continental law. These two paradigms coexist and have a significant influence on each other, at present their dichotomy is expressed, *inter alia*, in mutual influence and complementarity. Obviously, Russian law is supplemented by precedents, when decisions of the plenum of the Supreme Court of the Russian Federation on reviews of judicial practice are obligatory for lower courts in making decisions. In addition, such influence is enshrined in legislation, for example, in the provisions of paragraphs 1 p. 7 of Art. 2 Federal Constitutional Law of 5 February 2014 No. 3 - FKZ "On the Supreme Court of the Russian Federation": The Supreme Court of the Russian Federation, in order to ensure uniformity in the application of the legislation of the Russian Federation, provides the courts with explanations on judicial practice on the basis of its study and generalization; At 1 p. 3 st. 5 of the same federal law states that "the Plenum of the Supreme Court of the Russian Federation considers materials of analysis and generalization of judicial practice on the objectives of ensuring uniform application of the legislation of the Russian Federation".

We see that precedent law has a significant impact on Russian (continental) law. At the same time, common law system undergoes changes due to the increasing role of the state in relation to the legisla-

tive initiative because an increasing number of issues are regulated more by regulatory acts than by precedents (not excluding it, naturally). This mutual influence allows us to predict the advancement of a new paradigm, which is not formed by the advancement of one theory from a competing group of others, but from the fusion of two paradigms. This is the essential difference between jurisprudence and physics, for example, regarding to the way the paradigm is formed. I would like to show with an example of the right how interdisciplinary research helps to form a new paradigm. I. Shapiro says: The famous and criticized direction” economic analysis of law found its most vivid, prolific and influential supporter in the person of Richard Posner. For decades he supported the position that common law is best interpreted in the logic of the theory of economic efficiency [18]. Indeed, the famous work of the judge of the US Court of Appeals, Richard Posner, had the most serious impact on jurisprudence, using an interdisciplinary approach. Moreover, Posner's work influenced the jurisprudence in such a way that both a new paradigm and a new scientific community appeared [10, 11, 16, 20, 23].

The work of T. Kuhn “The Structure of Scientific Revolutions” had a significant impact on the understanding the process of promoting the most progressive theories from a group of competing theories and turning it into a paradigm. Since the work of T. Kuhn was formed on the basis of his basic education (physics was his main discipline both in the process of learning and during the doctoral degree), so not all aspects of the process of paradigm formation are covered by Kuhn's ideas. We gave arguments in favor of another formation of paradigms in jurisprudence, which are based on handicraft experience within certain areas. Juridical sciences formed its own paradigms on the basis of gained experience, customs and divine law, and later on the basis of precedents.

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