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Oksana Pylypchuk

State University of Infrastructure and Technologies
9, Kyrylivska Street, Kyiv, Ukraine, 04071
E-mail: oksanapilipchuk78@gmail.com
<https://orcid.org/0000-0002-4738-7201>

Oleh Strelko

State University of Infrastructure and Technologies
9, Kyrylivska Street, Kyiv, Ukraine, 04071
E-mail: olehstrelko@duit.edu.ua
<http://orcid.org/0000-0003-3173-3373>

Karl Popper's "Critical Rationalism": The way to freedom and democracy

Abstract. *In the history of science, there are known cases when people come into life whose vocation is to make a series of discoveries, which then change the scientific views of entire generations. The name of the philosopher Karl Popper became world-famous during his lifetime, because the achievements of this scientist impress with the originality and boldness of ideas, a high level of scientific knowledge and the scale of world perception. The article is devoted to the analysis of the life and activities of the outstanding philosopher and sociologist of the 20th century. Karl Raimund Popper, who was best known for his scientific works on the methodology and philosophy of science, as well as social and political philosophy. It is shown that his logical concept of the growth of scientific knowledge, which he began to develop in the 20s of the 20th century became the basis for the creation of the principle of falsification, which he proposed as a criterion for demarcation between science and pseudoscience. It is noted that in the following logical and methodological works of the scientist, a transition is observed in the field of scientific research of the scientist from logical and methodological problems of epistemology or the theory of scientific knowledge to the general theory of knowledge and evolutionary epistemology, as well as a transition from already obtained results to socio-political problems. The process of formation of the theory of critical rationalism was highlighted, which was that any theory, hypothesis, scientific knowledge should be as objective as possible and not depend on the opinion of individual people or communities. An analysis of the scientist's works in the field of social philosophy was carried out, which were based on the concepts of scientific knowledge and cognition developed by him. It has been studied that such a concept as "historicism" takes an important part in the formation of a totalitarian*



society, and the utopian ideas of Marxism, socialism and communism only lead to the inhibition of the development of any society. K. Popper's position on this issue is highlighted. The difference between an open and a closed society, which is traced in the scientist's scientific heritage, is reflected. And the impact of K. Popper's scientific heritage on the modern realities of Ukraine and the entire democratic world in the conditions of an international armed conflict is also determined.

Keywords: Karl Popper; history of philosophy; philosophy of science; principle of falsification; critical rationalism

Introduction.

In the history of science, there are known cases when people come into life whose vocation is to make a series of discoveries, which then change the scientific views of entire generations (Haig, 2024; Mansouri, 2024; Strelko, Pylypchuk, O. Ya., & Pylypchuk, O. O., 2024). The name of the philosopher Karl Popper became world-famous during his lifetime, because the achievements of this scientist impress with the originality and boldness of ideas, a high level of scientific knowledge and the scale of world perception.

In Ukraine, the scientific works of Karl Popper are known to a small circle of philosophers and researchers. This was primarily caused by the presence of Ukraine throughout almost the entire 20th century. in the Soviet Union, where the doctrine of Marxism-Leninism and the socialist socio-political system prevailed. And K. Popper was an ardent opponent of Marxism, which, in fact, determined the attitude of his scientific heritage among scientists of the Soviet Union in general and in Ukraine in particular. Researcher of Karl Popper's work V. S. Lisovyi wrote on this occasion: "The significance of Karl Popper's theory in the context of philosophical ideas of the 20th century. so great that the interest in them goes beyond professional. In addition, if for a Western reader K. Popper's ideas today do not always retain the character of novelty, for a Ukrainian reader familiarity with these ideas is relevant. This is explained by the fact that the so-called "materialist dialectic", supported in the thinking of both naturalists and social scientists, establishes a kind of such stereotypes, the sources of which are sometimes very deep: they cannot be overcome by a simple denial of Marx's philosophy" (Lisovyi, 1994, p. 4–5). The main directions of his scientific activity were scientific studies (methodology and philosophy of science) and social philosophy. Scientific theories of the scientist – the principle of falsification and critical rationalism at one time gained powerful development, became the basis of the scientific school of K. Popper and the basis for the formation of postulates of the scientist in the field of social philosophy. And his ideas were so bold that they affected the interests of both well-known scientific doctrines and entire nations.

At first glance, it may seem that the scientific legacy of Karl Popper has long been studied and cannot be the object of scientific research. Regarding his scientific views, scientists are divided into two camps: the first supports and develops the scientific legacy of K. Popper, the second constantly refutes and criticizes it (Scruton, 1994; Agassi, 2014; Reynolds, 2023). And this is not surprising, because scientists love recognition. Who would like the results of his scientific activity to be refuted? Karl

Popper was far from vanity and spent his whole life in search of the truth, which is why he questioned certain scientific theories. He longed for the truth. But the influence of his ideas continues to this day. In many European cities there are groups of people – his followers, especially philosophers. Karl Popper became the founder of a powerful scientific school, which only develops over time. After all, with the help of his scientific theories, you can study the past and the present, you can confidently look into the future.

The phenomenon of K. Popper is that his scientific views are relevant at any time. And if there are important socio-political changes in society that affect the interests of every citizen, then it is time to turn to the postulates of this outstanding scientist in order to understand what is happening. To consider the main theoretical positions of the scientist, to show the influence of his scientific concepts on society, as well as to analyze their significance for modern times is the main goal of this article.

Research Methodology.

When writing the article, we used generally accepted approaches, principles and methods of scientific research (Pylypchuk & Strelko, 2020; Pylypchuk, O. Ya., Strelko, & Pylypchuk, O. O., 2021, 2022). The main methodological approach, which determines the holistic reflection of reality and the development of socio-historical practice, is the theory of cognition. Its application made it possible to understand and reproduce the history of K. Popper's scientific and practical activities and show the importance of his scientific heritage for modern times. After all, the theory of knowledge connects human cognitive abilities with the world-historical development of the general system of knowledge, reflected in the scientific and practical results of mankind. The historical approach made it possible to analyze the activities of the scientist in the relevant socio-political conditions and their influence on the results of his scientific work. The chronological approach helped to present the historical material in chronological order. The systematic approach made it possible to explore all areas of the scientist's scientific heritage. Therefore, it was possible to create a general picture of the development of K. Popper's scientific theories and ideas. The principle of historicism made it possible to consider the formation of K. Popper's scientific heritage as a final historical process that took place over time, in specific conditions and circumstances. After all, the principle of historicism is always applied to the consideration of phenomena that have a beginning and an end, and also studies the connection between certain phenomena in space and time in the context of the development of a single and gradual world-historical process. The principle of scientificity contributed to the clarification of the cause-and-effect relationship between the phenomena and processes of the studied period in the context of the development of historical events and facts. After all, it is the principle of scientificity that makes it possible to acquaint contemporaries with the events of the past, and also shows the prospects for the development of science. The principle of multifactoriality united a number of different factors, socio-political and economic events, which became the basis for determining the actual scientific questions and problems in K. Popper's scientific works. The principle of specificity made it possible to consider

the results of a scientist's scientific activity not as an abstract phenomenon, but as a combination of his scientific activity and concrete scientific results. This is an adequate expression of the scientific heritage of a scientist who worked in a certain period, in a certain place and in a certain field of science. The application of general scientific methods of analysis and synthesis made it possible to investigate the process of development of science and social philosophy in the first half of the 20th century in the scientific works of K. Popper and combine separate information, facts and events into a general picture. The methods of induction and deduction, on the basis of previously presented evidence, made it possible to draw appropriate conclusions. The methods of abstraction, concretization and generalization contributed to the elucidation of certain scientific concepts and statements within the historical development of the relevant field of science and social philosophy. The methods of reductionism and holism helped determine the role of K. Popper's scientific heritage within the general development of science and social philosophy.

Results and Discussion.

Karl Raimund Popper was born on July 28, 1902 in Vienna in the family of Simon Sigmund Karl Popper, professor of law at the University of Vienna, and Jenny Schiff. Karl's father was an educated man, a lawyer, a book lover, interested in philosophy, sociology, and politics. His circle of communication included many educated people, scientists, representatives of the liberal intelligentsia, in particular, he was a close friend of Sigmund Freud's sister, Rosa Graf. Mother was engaged in the cultural upbringing of the young future scientist, instilled in Karla a love for nature, art, the surrounding world and music, which became one of the forces of the development of his thought. The Popper family had a large library, so from a young age Karl got acquainted with scientific works on classical and social philosophy of such famous thinkers as Marx, Engels, Bernstein, Kautsky. After all, the father always discussed philosophy, sociology and political science with his son. That is why philosophy became a true vocation for the future scientist. Even before university, he was interested in the problems of the philosophy of education.

In 1918, Karl Popper entered the University of Vienna, where he studied mathematics and physics for 2 years. Philosophy and music were his personal passions. During his studies in the process of creative search, the future scientist mastered various professions: carpentry (mahogany carving), music (he studied for a year at the Vienna Conservatory), music history, psychology became an important hobby of the young Popper (Derksen, 2019). From 1921 to 1924, he worked as a volunteer in the children's clinics of Alfred Adler – a famous psychiatrist, psychologist, founder of the theory of individual psychology, which he created on the basis of the theory of psychoanalysis of Z. Freud. It was from that time, observing Adler's method, K. Popper continued his acquaintance with the scientific works of outstanding thinkers of our time, in particular such as Freud and Einstein, and for the first time began to think about scientific problems. For example, how do the new doctrines of Adler, Freud, and Marx differ from already recognized and empirically proven scientific theories, such as

Albert Einstein's theory of relativity. At one time, the scientist would base these reflections on his well-known principle of falsification (Popper, 2002).

The formation of the personality and scientific outlook of the young Popper took place in the conditions of a liberal-democratic environment in which, at the beginning of the 20th century, attention to social problems and society's inability to solve them was constantly growing. This determined, from a young age, his interest in social issues. At the same time, K. Popper was influenced by the atmosphere of interest in the epistemology of science, which reigned within the walls of the University of Vienna. This determined the future scientist's interest in the current problems of the philosophy of science.

Thus, scientific directions – methodology and philosophy of science, as well as social philosophy became the two main directions of K. Popper's scientific activity. In 1925, K. Popper received a diploma as a primary school teacher, got married and began his professional career as a teacher of mathematics and physics at a school. In 1928, he defended his doctoral dissertation on the topic: "Methodology of cognitive psychology". The greatest popularity of Karl Popper was brought by his logical concept of the growth of scientific knowledge, which he began to develop in the 20s of the 20th century. It was based on criticism of some provisions of logical positivism, a direction that arose in the 20s of the 20th century on the basis of the famous Vienna circle in philosophical circles.

It was the first half of the 20th century, that is, the period from 1917 to 1937, that formed Popper's main philosophical and sociological beliefs. Thus, in 1934, his first scientific work "The Logic of Scientific Knowledge" appeared, in which he proposed his logical theory of the scientific method. The main task of which he considered to be the search for a criterion of demarcation between science and pseudoscience. And as such a criterion, he proposed *the principle of falsification*, according to which one should look not for evidence of a scientific theory, but for methods of its refutation (Duggan, 2021; Uygun Tunç, Tunç, & Lakens, 2023). That is, for example, in the process of choosing two competing scientific theories, the verification of truth should be carried out not by proving them, but by refuting them.

Such ideas of the scientist were at odds with the ideas of logical empiricism of the Vienna circle, which were widespread at that time in Western Europe, which led to active discussions and clashes. K. Popper was never a member of the Vienna Circle, he did not accept their idea that any scientific idea or theory must be verified empirically, in particular with the help of the verification criterion - the procedure for checking the truth of knowledge. After all, logical empiricism aimed to develop a system of criteria for evaluating the quality of theoretical ideas (Hawkins, 2022).

Thus, Popper's falsificationism came into conflict with the verificationism of neopositivists. A good, simple and well-known example of the collision of these two theories is the idea of black crows. For example, someone claims that all crows are black. The principle of falsification refutes this statement, because in order to empirically prove it, it is necessary to check all living ravens today, all those who lived before, and all those who will be born and live (Walker, 2019). And this is impossible. It was because of such examples in life and science that logical positivism was

destroyed, because it was built exclusively on empirical research. And not everything in this life can be proven empirically. For example, Ch. Darwin's theory of the origin of species. It is still unproven. There are no intermediate species in paleontological science that would prove that man, for example, descended from a monkey. This theory is safe for society and is still dominant in science due to the fact that it is profitable and fills the white spot in science that arises from the question "Where did life really come from on Earth? ".

Until the 50s of the XX century. logical empiricism was the recognized leader of Western philosophical science. And when he later entered a period of deep crisis, K. Popper noted that he had killed logical positivism (Popper, 2002).

But let's go back to pre-war times.

In 1933, the National Socialist German Workers' Party led by A. Hitler came to power in Germany, which marked the beginning of Nazi Germany, which lasted for 12 ears. And although after the World War I, according to the Versailles and Saint-Germain peace treaties, Austria and Germany remained separate independent states, the government of Nazi Germany considered this situation unacceptable and sought to correct it. After all, Austria and Germany had the same language, history and closely related economic systems. Therefore, in 1938, during the negotiations between Hitler and Austrian Chancellor Kurt Schuschnigg, Germany announced an ultimatum to Austria, agreeing to which Austria would lose its sovereignty and independence.

On this occasion, the Austrian newspaper "Jewish Press" wrote: "The difficult international situation favors the actions of those people whose stars rise only at night. The power of justice, morality, ethics, humanity have become just fashionable meaningless words. The world bows down to those who rattle weapons and intimidate people... Contracts – those scraps of paper that solemnly guaranteed rights – are no longer valid" (Jewish press, 1938).

Pogroms and persecution of anti-fascists and Jews began throughout Austria. In his book "Yesterday's World: Memories of a European", Stefan Zweig wrote about it as follows: "Unlimited free will was given outside of man... Urban robberies, as you know, took place hundreds of years ago, during medieval wars, but there was shameless pleasure here from public torture, mental torture, sophisticated humiliations... In former times, what happened in the unfortunate Vienna would have been enough for an international boycott. In 1938, the world conscience was silent or only slightly complained" (Zweig, 1970).

The Nazis canceled the Austrian referendum on independence and held theirs for the Anschluss of Austria and Germany. This is how A. Hitler brought Nazism to his homeland. And in the wake of Nazism, anti-Semitism strode through the streets of K. Popper's native Vienna. Therefore, Jewish families were in a hurry to leave Austria. Foreseeing the dire consequences for his homeland, K. Popper emigrated to New Zealand in 1937, where he received a teaching position at Canterbury University College of the University of New Zealand in Christchurch (Kierstead, 2019). And although in the early period of his research activity, K. Popper focused his attention on the methodology of natural science, in the 30s and 40s of the 20th century he began to actively engage in social philosophy and the methodology of social sciences, the

impetus for which was precisely the political events in Austria in the 1930s of the 20th century. It was here, in New Zealand, during the World War II, that he wrote such famous scientific works on social philosophy as *The Poverty of Historicism* (1944) and *The Open Society and Its Enemies* (1945). He dedicated them to all the dead and injured people in the World War II.

After the end of the World War II in 1945, the scientist returned to Europe and settled in Great Britain, in London, and received citizenship. He worked as a professor at the London School of Economics and Political Sciences of the University of London, dean of the Faculty of Philosophy, Logic and Scientific Method. Here he continued his work on issues of science.

Thus, in 1963, the second logical and methodological work of the scientist "Assumptions and refutations: the growth of scientific knowledge" was published, in which, first of all, the scientist sums up certain results of the work already done and observes the transition in the field of scientific research of the scientist from logical and methodological problems of epistemology or the theory of scientific knowledge to the general theory of knowledge and evolutionary epistemology, as well as the application of already obtained results to socio-political problems (Popper, 2014).

Subsequently, in 1972, the third scientific work of the scientist in this direction was published – "Objective knowledge: an evolutionary approach", in which *the theory of critical rationalism* was formed, which consisted in the fact that any theory, hypothesis, scientific knowledge should be maximally objective and not dependent on the opinion of individual people or communities.

Working on this theory, the scientist took as a basis the scientific views of Thales of Miletus, an ancient Greek philosopher, the founder of the Ionian school of natural philosophy. He is also called the father of science. He encouraged the students of the school to improve their studies. Thus, students criticized their teacher and tried to improve his ideas. This was the beginning of a real history of ideas.

"Although rationalism, as I have described it, is still very rare in Europe, and can hardly perhaps be regarded as one of the characteristic religions of Europe, although the ideas of rationalism are discussed nowadays with great contempt by almost all intellectuals, nevertheless rationalism of Thales of Miletus is an idea and a tradition without which our European civilization would not exist at all. After all, nothing is so characteristic of our European civilization as the fact that it is exclusively a scientific civilization. It is the only civilization that created natural science, and in which science itself plays a decisive role. However, this natural science is a direct product of rationalism. It is a product of the rationalism of ancient Greek philosophy", the scientist wrote about this (Popper, 2013b, pp. 26–27).

Critical rationalism began to be applied during research, using methods of criticism, observation, consideration of contradictions and inconsistencies, calling for a critical, balanced, reasoned approach to any problem, using the policy of small steps (Haig, 2024; Mansouri, 2024; Sepetyi, 2024). After all, there is a big difference between just an opinion that is most convenient and acceptable for a person, and the same opinion, substantiated, proven and presented for public review. Critical rationalism gives the scientist the opportunity to independently check his scientific

hypothesis and prove its scientificity, opening up new opportunities for its study and development.

In this aspect, the scientist emphasized that knowledge in the subjective and objective sense differs significantly from one another, because subjective views and expectations always lose to objective facts and evidence. And in order to bring a scientific opinion to the level of dogma, it must be objectified, that is, empirically proven and substantiated through critical analysis. As the scientist wrote: "A critical attitude is a critically important innovation that makes science what it is. And this is achieved, first of all, with the help of an objective, open, scientific formulation of its theories. This usually leads to disagreements and thus to critical discussion. Debates can often go on for years... And we have no guarantees that every scientific discussion will necessarily lead to a solution. There are no guarantees of scientific progress" (Popper, 2013a, p. 26). From the point of view of scientific methodology, the scientist noted that new, bold ideas in science should not be cumulative, but revolutionary in nature. That is, not to supplement existing knowledge, but to replace earlier theories with new ones that will solve the same problems just as successfully, but on a different, more progressive level, going beyond the framework of old beliefs.

According to Popper, "it is not contagious for a scientist to have a refuted hypothesis behind his shoulders" (Popper, 2013a, p. 28), you need to gather courage and formulate it so precisely and convincingly that other scientists have a desire to deny it. And in this process, as you know, a unique truth can be born, a stunning result that the scientist does not even expect. This was precisely the colossal liberating power of Popper's teaching on the scientific method.

As we can see, K. Popper's critical rationalism implies a realistic view of the world. The scientist was convinced that realism could neither be proven nor disproved, but it could be argued. Realism is part of common sense, and it is very closely related to science. With the help of our theories, we can describe the existing objective reality around us. And the emergence of a critical method in the process of scientific research is a rather rare and unprecedented phenomenon, when such concepts as a realistic worldview and the idea of approaching the truth are combined into one. This is a necessary factor for understanding the idealizing nature of science. In addition, a realistic view of the world, according to the scientist, makes it possible to look at the world from the point of view of humanity and morality. This is how we can accept all the mistakes and shortcomings of the society in which we live.

Karl Popper was always a supporter of the unity of the scientific method. He argued that the same methodology should be used both in natural and social sciences. The goal of philosophy should be to invent the "ideal" language of science. K. Popper aimed to turn science into a single reliable basis for solving all problems. He sought to create the so-called "intellectual authoritarianism". In fact, he made an attempt to find defined limits of science, which would be combined with the tendency to turn the philosophy of science into a kind of ideology – the ideology of scientism.

The community of scientists is never in a situation of complete freedom, according to the scientist. It always deals with the already existing context of theories and ideas, against the background of which a new problem is solved. However, some

researchers of Popper's methodology believe that he failed to offer a sufficiently promising opposition to the existing conventionalism due to the scientist's refusal to assert the empirical base as the "firm" basis of science (Popper, 1979; Merritt, 2017; Duerr, 2023).

Of course, in modern science there are directions and scientific schools where idealism occupies a prominent place. But K. Popper believed that scientific theories filled with idealism necessarily contain the quality of error, no matter how close they are to the truth. The struggle for realism and objectivism is fully justified, because only it can lead scientific theory beyond its own limits and combine its scientific results with the problems of future generations. In general, in these works, the scientist focused on the analysis of the logical structure of the critical method of scientific knowledge – fallibilism – the teaching that any scientific knowledge is not final, but only an intermediate interpretation of the truth. In London, he created his powerful philosophical and scientific school, which was very popular in Europe, America and other continents. He retired in 1969, but continued to be active as a scientist and teacher until his death in 1994 (Popper, 2002).

The works of the scientist in the field of social philosophy, which he wrote at the end of the World War II and later, are of special importance for our research. Of course, works on social philosophy were read in Ukraine only by individual scientists, and there was no discussion of K. Popper's works. This is caused by the poverty of scientific libraries in Ukraine for philosophical works in foreign languages. Sometimes excerpts from the works of K. Popper were published by the journal "Philosophical and Sociological Thought" (Kyiv). Later, during the time of independent Ukraine, some of K. Popper's works were translated into Ukrainian. In these works, we see how the scientist's reflections on society, history, and politics are based on the concepts of scientific knowledge and cognition developed by him.

In the scientific work "The Poverty of Historicism", which was published in 1944, the scientist compares the concepts of "history" and "historicism". In his opinion, a healthy historian studies the past, draws conclusions for the future, is in search of historical truth, because all history is not only facts about events, but also their interpretation by historians of his time. The historian knows that the past influences the future, but he is convinced that no one knows the history of tomorrow.

And the historian believes that history can be created, it can be directed in a profitable way, it can be driven into a framework and controlled. Historians make sociology a powerful tool in the hands of politics. They actively develop social engineering at the level of large masses of the population, entire peoples and nations, using manipulation and propaganda. Usually, these are the methods of anti-democratic regimes that aim to artificially create such a society that a small handful of people who call themselves political power want and lead their people away from the truth.

Historians use history as prophecy, extracting from it precisely those facts that are advantageous to them, giving them a powerful meaning on a par with religion. For this, they use institutional means (state administration) in order to psychologically transform not only the entire country, but also each individual, to direct the development of society according to a defined plan.

History knows a number of scientific works of famous philosophers of different times who tried to create utopian ideas of an ideal state on the pages of their works: Plato "State", T. More "Utopia", T. Campanella "City of the Sun" and others.

History also knows totalitarian regimes, their development and end. History proves that any intervention in the nature of the development of society does not end in anything good. Society is a living organism that always fights for its natural development and social health. That is why the fate of tyrants is usually so cruel. At the appropriate moment, the social organism confronts the source of violence and neutralizes it.

The great mistake of historians is that, using social engineering to quench their political ambitions, they have no scientific practical experience, so the path of development of such a society is always one big experiment that cannot be repeated. And due to the fact that such experiments affect large masses of the population, it is almost impossible to learn from mistakes, because many events take place in a large society. It is impossible to understand what exactly caused this or that result. In this situation, it is impossible to combine social planning with scientific methods. After all, unlike power, knowledge cannot be centralized, it is divided among people (von Mises, 1999).

Therefore, the idea of historicists that society, like a physical body, can move in one predetermined direction is a utopia and a misunderstanding. After all, there are no laws of movement of society analogous to the laws of movement of physical bodies. In society, there are only trends in the development of society, which have the ability to change in different periods of time. To confuse laws and trends is a mistake that at one time became the basis for such great scientific theories as Marxism and Darwinism. There are no undeniable laws of biological evolution and irreversible laws of social movement.

Trends depend on conditions that need to be found and identified. But the historian does not want to be objective. He chooses exactly that trend or those conditions that he likes, by which he necessarily commits violence against the people. Historians always give some leader the main role in history. And according to his political direction, they write the history they need. They do not accept a large number of historical interpretations.

The main danger of this state of affairs is that it is simply impossible to check the results of such an experiment in advance. As K. Popper pointed out, an evolutionist who is convinced that it is possible to control human nature with the help of science, does not understand how impossible this requirement is, because the main driving force of evolution and development is the variety of material from which selection takes place. The same applies to society – every person in it has the right to his own individuality and uniqueness, to choose directions of movement and development, to form his values. It is this diversity of individuals that ensures the development of society. And control, which leads to equalization of minds, means the end of progress (Popper, 1966).

K. Popper's second well-known scientific work on political philosophy was the book "The Open Society and Its Enemies", in which he criticizes the theories of Plato,

Hegel, and Marx and accuses them of creating the ideological base of totalitarianism, and characterizes a closed society.

As an ardent defender of democracy, K. Popper had a very negative attitude towards Marxism and all the consequences it brought to European countries in the 20th century. In particular, socialism is a state-political system that looked quite good in theory, but taking into account human nature, in practice it became a despotism and threw the countries of socialism into a totalitarian regime.

Marxism simply crashed on the rocks of critical rationalism, because time has proven that this theory is unsustainable in human society. The socialist organizations of classical formation existing today in other states do not bring improvements to their countries. In our opinion, over time, not a single country with a socialist socio-political system will remain on Earth. After all, man, as a species, is a predator. Therefore, the best socio-political conditions for the development of humanity, although not the most simple, are democracy and capitalism. Man and the entire living world are created in this way. They do not develop and do not live long in conditions of infantile inactivity, which is actually what socialism promoted. Otto von Bismarck, a German politician known in history for uniting the independent German states around the Kingdom of Prussia into one large country – the German Empire – said very correctly in this regard: "Socialism can be built. The main thing is to find a country that is not sorry" (Popper, 2020).

K. Popper knew throughout his life that socialism would not last long, and he was right. In an interview with the German newspaper "Spiegel", he noted that such social experiments impose a great responsibility on those who created them for future generations. And first of all, for this you need to remove the glasses of ideology. Yes, the socialism that was built in the Soviet Union had little in common with the initial theories of K. Marx. After all, in his book "Poverty of Philosophy" in 1847, K. Marx wrote that the class struggle must end with a social revolution that will lead to the construction of a classless, communist society. Which is a priori impossible due to the corresponding class nature of humanity. This is exactly the mistake we mentioned earlier – don't confuse laws with trends.

But the most important delusion of K. Marx was that he considered capitalism in the West as a huge evil. And this became one of the postulates of the ideology of socialism – the fight against capitalism. Marxism, as a utopia, from the very first day chose violence as the main method to achieve its goals. Instead, everything happened quite the opposite.

"The Caribbean crisis clearly showed what Marxism was capable of in its ideology: it tried to destroy capitalism by force with the help of nuclear weapons. This should never be forgotten. As a result of this attack, not only America would die, the whole world would die in atomic bombings. Although this would last several terrible years", the scientist wrote (Popper, 2013b, p. 167).

At the end of K. Popper's life, in 1993, the publication "All Life – Solving Problems" was published in 2 volumes, in which he collected separate, in his opinion, the most interesting scientific articles and reports. In Volume 2 "Thoughts on History and Politics" he underlined a number of socio-political events of the 20th century. and

raised questions about peace and the possibility of war in our time, freedom, responsibility, the meaning of history, the importance of democracy in an open society (Mohammadi Alamuti, 2022). This scientific work became a kind of testament of the scientist for future generations, which was formed by him during the long years of life in the difficult times of the 20th century.

K. Popper called on the whole world to fight as hard as possible against nuclear weapons in the world. After all, the development of the hydrogen bomb by Academician Sakharov in Russia exceeds the bomb dropped on Hiroshima by many thousands of times. We cannot agree with this. It will just destroy the world. He believed that all civilized countries should fight against such crazy, otherwise you will not name them, politicians by creating an appropriate strike group – the use of nuclear weapons should be prevented by force. "For the sake of peace, we have to wage wars", the scientist noted (Popper, 2013b, p. 169).

K. Popper was convinced that the democratic world should do everything to ensure that such ideologies never seize power again. The enormous, years-cultivated aggression of the socialist world against capitalism led to the fact that the Soviet Union over the years accumulated a huge arsenal of weapons, including nuclear warheads. And all this was intended to fight the world that does not exist, with the illusion.

In this regard, he noted: "Capitalism" in the historical sense in which Marx used this concept has never existed in this world. There has never been a society with some internal development trend similar to Marx's law of increasing impoverishment or the hidden dictatorship of capitalists. All this was and remains an absolute illusion. I agree that life before the industrialization era was very difficult. However, industrialization also meant an increase in labor productivity, and the latter, in turn, meant mass production. Obviously, mass production eventually found its way to the masses. Marx's understanding of history, together with his predictions, is not only wrong – it is simply impossible: it is impossible to make a mass product for a small number of rich capitalists, which is constantly decreasing" (Popper, 2013b, p. 196).

The scientist emphasized that the capitalist world, of course, was never a paradise on earth. But it was much closer to paradise than the Soviet reality. And for disarmament, he proposed to follow the following plan, both in the field of international relations and internal social changes: more freedom, control over responsibility, world peace, the fight against poverty, the fight against the demographic explosion, the education of non-violence, and the limitation of bureaucracy.

From the point of view of modernity, this is a rather idealistic plan. But Karl Popper was a very courageous scientist and always set a high bar for his results. This character trait appeared in him at the age of 7, when he got acquainted with Fritjof Nansen's book "At night and in the cold. The Norwegian Polar Expedition 1893–1896", the author of which, after the World War I, became one of the founders of the League of Nations. This book about a 3-year stay among the polar ice sparked little Karl's interest in research, especially bold theories, and influenced his scientific activity throughout his life. F. Nansen's projects were built on rather risky ideas that were severely criticized by society, but F. Nansen developed his brilliant plan in such a way that the expedition was a success.

K. Popper wrote in his memoirs that even then, at the age of 7, he understood that success comes to those who put forward the most daring hypotheses and are ready to test them experimentally. That real science requires courage and responsibility, as well as constant discoveries. In particular, he noted that Ch. Darwin always claimed that you can't experiment without hypotheses, and F. Nansen generally said that an absurd idea is better than none at all. This is how the principle of falsification and critical rationalism was born. From the personality formed in childhood. K. Popper was not afraid to refute his own ideas. He was higher than vanity.

Yes, K. Popper loved the Western world. He considered it imperfect, of course, but the best of all political worlds existing in history. After all, in it, people choose political freedom precisely because it makes it possible to get such a life in which people can bear responsibility for themselves. They have the right to choose and the right to vote – which are key concepts of democracy.

A society in which freedom lives does not require self-proclaimed prophets who use dubious propaganda methods in their politics. K. Popper was always against the anarchic power of the people without observing the norms of democracy. After all, the uncontrolled power of the people gives birth to dubious philosophers, such as Fichte, Schelling and Hegel, leaders of German idealism, who led their country to an intellectual and social disaster. Tragedy that had a huge destructive and numbing effect on society.

"Unfortunately, the desire to impress others, not to teach, but to deceive, is too widespread among intellectuals. They act as leaders, as prophets, partly because prophecies are expected of them – they are expected as heralds of the unknown secrets of life, the world, peace and man, history and existence.

Here, as is often the case, constant demand, unfortunately, creates supply. Leaders and prophets are sought. And it is not surprising what they find. However, "grown-up people don't need leaders", as H. Wells once said, and grown-up people should also know that they don't need leaders" (Popper, 2013b, pp. 19–20).

After all, a healthy, free person needs a legal state that recognizes the needs and rights of every citizen. And it also needs protection. And the state, which takes upon itself the duty to defend its country, must also worry about the health and well-being of its citizens, so that they, in turn, are ready for defense. It must control the country's economy, because in the event of an armed conflict, large resources will be spent on it. And this is possible only in a democratic state. The difference between attack and defense cannot be leveled, and it is necessary to develop social institutions that distinguish between aggression and counter-aggression.

According to Popper, the political freedom of a country is possible when the rulers can do without bloodshed. And let's emphasize that this does not apply to the state with which the war was started, but to the state that started the war. In the aggressor state, political freedom does not exist in principle. Another question is how the nation allowed such a state of affairs. In our opinion, these are the features of the nation, its national character – features of temperament, expression of emotions, feelings, national superstitions, common habits, traditions, stereotypes, features and specifics of behavior, value orientations, needs and tastes, rituals. National character, first of all,

manifests itself as a system of socio-cultural and moral norms. And by starting a war, the aggressor state demonstrates to the whole world the level of development of this system. As K. Popper wrote, relying on the works of Spinoza: "The tyrant may always try to snatch our freedom, but he will never be able to take it away from us" (Popper, 2013b, p. 23).

We want to end our study with a quote from a prominent scientist, which has never been as relevant as it is now, since it was written. Never before have the words of K. Popper been perceived as so relevantly prophetic: "Never before have such a number of such terrible weapons been concentrated in so many irresponsible hands – a thousand times more than after two world wars. Our leading politicians are responsible to us for this situation and for putting up with it. We have to blame it on all of them..."

After the wars, disarmament was discussed. Western democracies have made significant progress in disarmament. But they are the only ones. The League of Nations, and later, after the World War II, the United Nations, was founded on a wonderful idea – the idea that moral and military superiority obligates them to secure the world until others realize and learn their duty. No one doubts that we are on the verge of retreating from this position. We do not explain this to voters: we are afraid to sacrifice it. We avoid going into adventure, calling adventure what is our duty...

From the crimes of World War I, which led to the Kellogg Pact, and the crimes of World War II, which led to the creation of the United Nations, arose a rather powerful political movement of all men of good will. But what is gained by one generation may be lost by the next.

It is lost. And we have to revive the lost. We must remember our duty. And we have to remind our politicians that their death (or their resignation) does not relieve them of responsibility" (Popper, 2013a, pp. 8–11).

Conclusions.

History is being written now. The remnants of socialism, transformed for modern realities, are at war with capitalism, in their opinion. And this war is not only against Ukraine. This war is against the entire democratic world. The peculiarity and novelty of the totalitarian regime of the Russian Federation lies in the fact that it is trying to return to the past, and with the help of an armed conflict to drag long-independent, post-Soviet, modern countries there. And this, as we described earlier, is impossible. Totalitarian regimes with weapons in hand came against the democratic world. Another utopian idea of social engineering. Based on history, we understand that the results of this social experiment will lead to major changes in a number of countries and on the international arena. No one will make predictions and prophecies. The only thing we can say with confidence is that the democratic world will fight for victory until the end. Only we ourselves now, more than ever, influence our future. Karl Popper's critical rationalism and falsification principle will certainly work in this case as well. After all, as this outstanding scientist noted:

"Optimism is a duty. It is necessary to concentrate on things that should be done and for which one should bear responsibility. We must live so that our grandchildren, if possible, were even better than we were" (Popper, 2013b, p. 178).

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Оксана Пилипчук

Державний університет інфраструктури та технологій, Україна

Олег Стрелко

Державний університет інфраструктури та технологій, Україна

«Критичний раціоналізм» Карла Поппера: Шлях до свободи і демократії

Анотація. В історії науки відомі випадки, коли з'являлися люди, покликання яких – зробити ряд відкриттів, які потім змінюють наукові погляди цілих поколінь. Ім'я філософа Карла Поппера стало всесвітньо відомим ще за його життя, адже досягнення цього вченого вражають оригінальністю та сміливістю ідей, високим рівнем наукових знань та масштабністю світосприйняття. Стаття присвячена аналізу життя та діяльності видатного філософа та соціолога ХХ століття Карла Раймунда Поппера, який був найбільш відомий своїми науковими роботами з методології та філософії науки, а також соціальної та політичної філософії. Показано, що його логічна концепція зростання наукового знання, яку він почав розвивати в 20-х роках ХХ століття, стала основою для створення принципу фальсифікації, який він запропонував як критерій розмежування науки і псевдонауки. Зазначається, що в наступних логіко-методологічних працях вченого спостерігається перехід у сфері наукового пошуку вченого від логіко-методологічних проблем гносеології чи теорії наукового пізнання до загальної теорії пізнання та еволюційної гносеології, а також перехід від уже отриманих результатів до соціально-політичних проблем. Висвітлено процес формування теорії критичного раціоналізму, яка полягала в тому, що будь-яка теорія, гіпотеза, наукове знання повинні бути максимально об'єктивними і не залежати від думки окремих людей чи спільнот. Проведено аналіз праць вченого в галузі соціальної філософії, в основу яких покладено розроблені ним концепції наукового знання та пізнання. Досліджено, що таке поняття як «історизм» бере важливу участь у формуванні тоталітарного суспільства, а утопічні ідеї марксизму, соціалізму та комунізму призводять лише до гальмування розвитку будь-якого суспільства. Висвітлено позицію Карла Раймунда Поппера з цього питання. Відображено різницю між відкритим і закритим суспільством, яка простежується в науковій спадщині вченого. А також визначено вплив наукової спадщини Карла Раймунда Поппера на сучасні реалії України та всього демократичного світу в умовах міжнародного збройного конфлікту.

Ключові слова: Карл Поппер; історія філософії; філософія науки; принцип фальсифікації; критичний раціоналізм

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