

8. Downton L., Rebel Jr. (1973). *Leadership Commitment and Charisma in Revolutionary Progress*. N.Y.; London : The Free Press, 384 p.

9. Follett M.P. (1995). *Prophet of Management*. Boston : Harvard Business School Press, 422 p.

10. Hodgkinson C. (1983). *The Philosophy of Leadership*. N.Y. : St. Martins Press, 247 p.

11. Hogan R., Kaiser R. (2005). What we know about Leadership? *Review of General Psychology*. № 3. P. 169 – 180.

12. Kotter John P. (1988). *The Leadership Factor*. Free Press.

13. Simon Sinek. (2014). *Leaders Eat Last: Why Some Teams Pull Together and Others Dont*. New York : Portfolio/Penguin

14. Sheryl Kara Sanderg. (2013). *Lean In: Women, Work, and the Will to Lead*. Retrieved from [https://en.wikipedia.org/wiki/Lean\\_In](https://en.wikipedia.org/wiki/Lean_In)

*Надійшла (received) 08.12.2023*

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УДК 655.01:355.45

doi: 10.20998/2227-6890.2023.2.05

**В.О. НІКІТЕНКО**

**ФІЛОСОФІЯ ВІЙНИ: ВПЛИВ НА СУСПІЛЬНИЙ РОЗВИТОК І НАУКОВО-ТЕХНІЧНИЙ ПРОГРЕС**

У контексті сучасного військового розвитку, стаття висвітлює визначальну роль науково-технічного прогресу та філософії війни. Е статті підкреслюється, що технології не лише є основною бойовою здатністю, але й визначають філософію ведення війни; також наголошується, що лише завдяки науково-технічним інноваціям можна перехопити військову ініціативу та досягти перемоги. Авторка підкреслює, що важливо розглядати ці інновації в контексті філософії війни, що дозволяє адаптувати їх до стратегічних та тактичних вимог бойових дій. У статті зазначається, що успішне управління військовим конфліктом вимагає не лише технічних рішень, але й глибокого розуміння філософії ведення війни. Зазначається, що технічні досягнення повинні бути врівноважені стратегічними та філософськими аспектами військової діяльності, а філософія війни виступає як ключовий елемент, що визначає та направляє розвиток науково-технічних інновацій, роблячи акцент на необхідності глибокого філософського розуміння при впровадженні нових технологічних рішень у військові стратегії.

**Ключові слова:** філософія війни, технологічні інновації, військові стратегії, управління військовим конфліктом.

**V.O. NIKITENKO**

**PHILOSOPHY OF WAR: IMPACT ON SOCIAL DEVELOPMENT AND SCIENTIFIC & TECHNOLOGICAL PROGRESS**

In the context of modern military development, the article highlights the decisive role of scientific and technological progress and the philosophy of war. The article emphasises that technology is not only the main combat capability, but also determines the philosophy of warfare; it also notes that only through scientific and technological innovations can the military initiative be seized and victory achieved. The author emphasises that it is important to consider these innovations in the context of the philosophy of war, which allows them to be adapted to the strategic and tactical requirements of combat operations. The article notes that successful management of a military conflict requires not only technical solutions but also a deep understanding of the philosophy of warfare. It is noted that technical achievements should be balanced by strategic and philosophical aspects of military activities, and the philosophy of war is a key element that determines and guides the development of scientific and technological innovations, emphasising the need for a deep philosophical understanding when introducing new technological solutions into military strategies.

**Key words:** philosophy of war, technological innovations, military strategies, management of a military conflict.

**Problem statement.** Societal development is inextricably linked to the dynamics of military conflict. The impact of war on society is manifested through various aspects, such as economic hardship, socio-cultural shifts and changes in the political structure. War can affect the distribution of resources, the formation of a society's identity and its relations with other countries. In today's world, scientific and technological progress and innovation are becoming key factors that determine

the competitiveness of countries. Military conflicts, on the one hand, can stimulate the development of new technologies and inventions, and on the other hand, they can lead to the destruction of research institutions and infrastructure. Understanding this relationship allows us to predict the possible consequences of military events for scientific and technological progress.

Illuminating the relationship between war, social development, and scientific and technological progress is

an urgent task for the modern philosophy of war. An in-depth consideration of these aspects allows not only to analyse the past, but also to develop strategies for future development, ensuring the harmonious progress of society in the context of military and political instability.

It should be noted that the philosophy of war is becoming a key factor in understanding and analysing the impact of military conflicts on social development and scientific and technological progress. The modern world, which is affected by political, economic and socio-cultural changes, requires an in-depth consideration of military events in the context of their impact on the development of science, technology and society as a whole.

In the context of the issues under study, it should be emphasised that the philosophy of war is a branch of philosophical study that focuses on the essence, ethical aspects, and socio-cultural impact of armed conflicts on humanity. It examines various philosophical approaches to warfare, defines the principles of military ethics, and explores the philosophical aspects of military strategies and tactics. The main aspects of the philosophy of war include historical analysis of military conflicts, ethics of war, philosophy of peace, military technology and innovation, hybrid warfare and challenges for management strategies, management of international relations through military conflicts, and psychology of warfare. The philosophy of war not only studies certain aspects of armed conflicts, but also considers their impact on social development and scientific and technological progress. Armed conflicts, as an integral part of human history, determine social progress through their impact on culture, technology and social structures. One aspect of the philosophy of war is a retrospective analysis of the impact of military events on social development.

Armed conflicts can define new ways of development and transformation of society. At the same time, they pose challenges, such as solving global problems and ensuring sustainable development. The philosophy of war also considers the impact of military technologies on scientific and technological progress. Wars create innovative technologies that are then applied in various fields, such as medicine, transport, and communications. This can lead to rapid development of science and technology.

Thus, the philosophy of war is not limited to the analysis of military aspects only. It looks at the bigger picture of the impact of war on society and human development, as well as the role of military technology in scientific and technological progress. Technology is not only the main combat capability, but also determines the philosophy of warfare, and only through scientific and technological innovations can the military initiative be seized and victory be achieved. However, it is also important to consider these innovations in the context of the philosophy of war, which allows them to be adapted to the strategic and tactical requirements of combat operations. Successful management of a military conflict requires not only technical solutions but also a deep understanding of the philosophy of warfare. It is noted that technical achievements should be balanced by strategic and philosophical aspects of military activity. The philosophy of war is a key element that defines and

guides the development of scientific and technological innovations, emphasising the need for a deep philosophical understanding when implementing new technological solutions in military strategies. In addition, the philosophy of war raises questions about the possibility of achieving peace and conflict resolution through diplomacy and international cooperation. It examines the effectiveness of various conflict management strategies and is intended to help develop concepts aimed at preventing the outbreak of new wars. Through the prism of the philosophy of war, it is also advisable to consider the relationship between war and the development of society as a dynamic and interconnected process. The ability to adapt, study and use the knowledge gained from military conflicts can influence the path of civilisation development and determine the prospects for scientific and technological progress.

Therefore, the philosophy of war, as a field of study, not only analyses military aspects, but also tries to reveal the deep impact of war on social development and scientific and technological progress, taking into account the ethical, moral and social aspects of this phenomenon.

Statement of the problem: In the context of philosophical discourse, it is extremely important to study and analyse the impact of war on social development and scientific and technological progress. The problem statement is to deeply understand and reveal the interconnections between military conflicts, the evolution of society and achievements in science and technology. It is important to consider how military events affect the philosophy, values and cultural landscape of a society. What aspects of wars define and model trends in the development of thought, promote or hinder the intellectual potential of society?

It is also important to study how wars affect scientific and technological progress. Do military conflicts serve as catalysts for innovation and technological development, or do they slow down scientific achievements due to the concentration of resources on military needs? The problem also includes the study of how philosophical reflections on wars influence the formation of modern paradigms and concepts in society. What philosophical ideas emerge or are reinforced during military conflicts and how do they influence the perception of war as a socio-cultural phenomenon?

The above problem is aimed at creating a deep understanding of the dynamics of the relationship between war, social development and scientific progress, in particular in the context of philosophical analysis, which will allow us to identify key vectors of influence and possible ways to address these complex interrelationships.

#### **Analysis of recent researches and publications.**

The used scientific works provide a comprehensive view of the socio-philosophical aspects of war and its interaction with modern scientific and technological progress, namely: the philosophical view of war is presented in the work "Philosophy of War: Historical and Economic Aspects" (V. Lavrynenko), which can expand the understanding of the impact of war on society [7]. "Technologies for Developing Students' Critical

Thinking" (Alan Crawford, Wendy Saul, Samuel Matthews, James McInster) aims to reveal the importance of critical thinking in the context of studying war, providing an educational approach to the development of intellectual resources [1]. The article "Exploring Echo-Systems: How Algorithms Shape Immersive Media Environments" (Cohen, J.N.) highlights the interaction of algorithms and media in an environment that can be used to analyse the technological aspects of warfare [2]. The paper "Supply chain digitalisation and performance improvement: a moderated mediation model" (Haidi Zhou, Qiang Wang, Lixu Li, Thompson S.H. Teo, Shuili Yang) provides insights into digital innovations in supply chains that may be important in terms of military logistics [3]. Researcher Karamyshev D. V. in his works, in particular, "Organisational and Legal Principles of Civil-Military Cooperation", considers the interaction of military and civilian structures in conflict conditions [4]. Lavrynenko D.M. in his article "Innovative Development and Creativity during Military Operations in Ukraine" considers innovation processes in the conditions of war, which is important for understanding scientific and technological progress in the war period [8]. The paper "Political Culture: Theoretical and Methodological Issues of Research" (Matusevych V.) identifies key aspects of political culture that have a significant impact on social development in times of conflict [9]. The papers by McAfee, A., E. Brynjolfsson, T. H. Davenport, Min-Jae Lee, Taewoo Roh, and O'Neil, C., who explore the importance of big data management, digital capabilities and their impact on sustainable development, and the ethics of big data use, may be key to understanding military-technical innovation and its impact on societal development [10]. In addition, works that examine financial services operations (Pinedo, M., Y. Xu) [14], big data ethics (Richards, N. M., J. H. King) [15], critical thinking (Richard Paul, Linda Elder) [16], and perspectives on artificial intelligence and Industry 4.0 technologies (Sunil Mithas, Zhi-Long Chen) [20] can complement the consideration of military-technical innovation in a broader context. In particular, the work of Rodrigo Caporali De Andrade, Paul T. Grogan, and Somayeh Moazeni [19], which models the use of data in customer service systems, can provide a fresh perspective on the potential of modern technology in the context of military operations.

Taken together, these papers reveal important interactions between the social and technical aspects of warfare, contributing to a deeper understanding of this complex phenomenon.

**The purpose of the article** is to study and analyse the impact of war on social development and scientific and technological progress, considered in the context of philosophical discourse, aimed at deep understanding and disclosure of the interrelationships between military conflicts, the society dynamics and scientific achievements.

In accordance with the purpose of the work, it is advisable to formulate the following tasks:

1. To analyse the current state of scientific and technological innovations in the field of defence and security in the context of social and philosophical analysis.

2. To substantiate the importance of implementing a scientific and integrated political system to maximise the innovation potential.

3. To emphasise the need for interaction of civil-military innovations and expansion of their integration into new areas in the problematic field of philosophical issues.

4. To point out multidimensional approaches to integration and coordinated promotion for the leapfrog development of science and technology.

**Main body.** Technology is the main combat capability of modern warfare; those who have scientific and technological advantages will be able to seize the military initiative and gain the opportunity to win, while those who ignore scientific and technological progress will find themselves in a passive situation of lagging behind and defeat. Only by keeping up with the trend of the times, firmly grasping and effectively using the historical opportunities of the scientific and technological revolution, catching up and striving to catch up, will we be able to set the new engine of combat capability improvement in motion. It is necessary to adhere to the strategic basis of independent innovation, accelerate the development of strategic, advanced and breakthrough technologies, and continuously increase the contribution of scientific and technological innovation to the construction and combat effectiveness of the people's army. Technology is the core combat capability of modern warfare. This idea deeply reveals the basic laws of global military development, fully reflects the winning mechanism of modern warfare, and further demonstrates the role of science and technology in the elements of combat capability. Comprehensively implementing the strategy of developing the armed forces through science and technology and using technological innovation as the main engine for strengthening the armed forces is an urgent necessity to solve the problem of bottlenecks in the construction and development of our armed forces and transform the way we improve combat effectiveness. This is an inevitable choice to achieve the goal of strengthening the armed forces and creating a world-class armed force. Science and technology are the most active and revolutionary factors in military development. Science is a driving force that plays a driving role in history." War has never abandoned technology as a means of violence. Those who have scientific and technological advantages will be able to seize the military initiative and gain the opportunity to win, while those who ignore scientific and technological progress will find themselves in a passive situation of lagging behind and defeat. The widespread use of science and technology in the military sphere has caused profound changes in the form of warfare and methods of warfare. The popularisation and application of metal smelting technology moved human warfare from the Stone Age to the Cold War era; the invention and use of gunpowder ushered in the Hot War era; innovations in military science and technology such as tanks, aircraft and ships ushered in human warfare. Through the evolution of warfare, it is clear that technology is having an increasingly important impact on the outcome of wars. Before the Cold War era, the outcome of a war mainly depended on the number of soldiers, physical fitness and

weapon handling skills; with the advent of the Hot War era, advanced technology and weapons and equipment gradually became a key part of victory. Strong science and technology will lead to strong national defence, and prosperity in science and technology will lead to a prosperous army. Every innovative breakthrough in military science and technology has an impact on improving combat effectiveness. Only by continuing to promote scientific and technological innovation with great care and a high degree of sensitivity and fully applying it to the military field will we be able to keep up with the times, lead the military process and seize the initiative on the battlefield. This is an important law of victory based on countless military practices at home and abroad in ancient and modern times.

The need to interact civil-military innovations and expand their integration into new areas is determined by modern challenges and development needs. Such interaction promotes the optimal use of technical and scientific achievements in the military sphere, while their expansion into new areas opens up prospects for solving civilian problems and challenges. This promotes integrated development and ensures the mutual exchange of innovative achievements between the military and civilian sectors to achieve more effective results and a positive impact on the development of society as a whole.

The new round of the scientific and technological revolution opens up a huge scope for creating new high-quality combat capabilities. At present, the world is witnessing a new round of scientific, technological and industrial revolution, with a large number of revolutionary breakthroughs in science and technology beginning to emerge, stimulating the comprehensive development of key technologies and the emergence of a new round of scientific and technological revolution. This round of the scientific and technological revolution will not only become the most powerful "lever" for the economic and social development of mankind, but will also affect the global security situation and military competition.

Some important scientific and technological achievements resulting from the new round of the scientific and technological revolution have shown good prospects for military use and continue to create growth points for new combat capabilities. The Internet of Things technology facilitates the interconnection of everything on the battlefield, laying the foundation for the creation of a ubiquitous sensor network system; big data technology provides unique advantages in military forecasting, intelligence analysis, decision-making, etc. and should become an important factor in winning modern wars; distributed parallel network computing technology, represented by cloud computing, provides a new engine of systemic confrontation; technologies such as quantum communication, cognitive radio, mobile Internet and terahertz communication create the conditions for large-capacity data transmission in complex electromagnetic environments. Artificial intelligence technologies are developing rapidly, and in some industries, the corresponding indicators have reached or exceeded the human level. At the same time, biological computers, optical and quantum computers, as well as new computer technologies based on non-silicon materials will break the curse of Moore's Law and open a

new era of information technology development; military aerospace, hypersonic vehicles, laser weapons and unmanned combat platforms Rapid development of technologies such as combat robots is showing overwhelming advantages over traditional weapons; technologies such as electromagnetic railguns, low visibility, supercavitation, mechanical exoskeletons and system integration are becoming more mature, and all have the potential to change the face of future warfare. . Faced with a new round of technological and military revolution, the world's major powers have stepped up military technological innovation and actively sought new advantages in future military development. Relying on technological advances such as sensor technology, big data development, visualisation, robotics and artificial intelligence, the United States is promoting the Third Offset Strategy and accelerating the development of new global instantaneous strike systems, unmanned combat systems, electromagnetic railguns and laser weapons, all of which seek to create a new combat system that is one generation ahead of its adversaries. Other world powers are actively promoting the modernisation of their strategic nuclear forces, developing hypersonic aircraft, creating cyber security forces, strengthening research and development of breakthrough technologies in advanced medicine, new materials, artificial intelligence, future energy and bionics, and advanced technologies. underwater technologies, and seeking to increase their armed forces. "Technological content". Countries such as Japan, the United Kingdom and France have also stepped up the pace of military-technical innovation and increased the level of modernisation of weapons and equipment. Increasing the combat capability of the armed forces through the development of advanced science and technology, as well as weapons and equipment, is increasingly becoming a feature of the game between the great powers in the modern world.

The rapid rise of the scientific and technological revolution is both a rare opportunity & a serious challenge. Opportunities are fleeting. If you seize them, you can use them. If you fail to seize them, you may miss an entire era. Only by keeping pace with the trend of the times, grasping firmly and effectively using the historical opportunities of the new round of the scientific and technological revolution, catching up and catching up, will we be able to ignite a new engine of a combat capability leap.

Paying attention to the need to improve combat effectiveness through scientific and technological innovation is our Party's core experience in guiding the construction and development of the army and defeating the enemy. In order to build a world-class armed forces, we must fully implement the strategy of developing the armed forces through science and technology, adhere to the strategic basis of independent innovation, strive to be at the forefront of global military science and technology, strengthen forward-looking planning and design, accelerate the development of strategic, advanced and breakthrough technologies, and continuously improve the impact of scientific and technological innovation on the people's army. The level of contribution to the construction and development of combat capability.

It is necessary to choose the right core direction and breakthrough point and intensify the development of

advanced strategic technologies. True core and key technologies cannot be bought with money, and simply implementing them will not get you very far. We must adhere to a policy of active tracking, careful selection, and what we do and what we don't do, and strengthen the overall planning and scientific design of military S&T innovation, always focusing on the key factors that influence the outcome of war and targeting the advanced disciplines and the neutral zone. Focus on breakthroughs. Adhere to the weak links in the construction of national defence science and technology and armaments and equipment as the main direction of promoting independent innovation, use major themes and major projects as the driving force, strengthen visionary, innovative, exploratory and revolutionary major technological processes. research and strive to develop key core technologies. Important progress has been made in this area, contributing to the accelerated development of scientific and technological innovation in our armed forces, from walking and running to leading and leading.

With a focus on enhancing the development potential of national defence science and technology, we will continue to make great efforts in basic research. Basic research is the source of the entire scientific system, the general body of all technical issues, and the driving force behind the development of weapons and technology.

For most of history, progress in the world has been slow. Civilisations rise and fall. People accumulate wealth and spend it. Almost every person in the world lives in what we now call extreme poverty. World wealth – at least according to the most optimistic estimates – has changed little in thousands of years.

The global economy has suddenly started to grow exponentially. Global life expectancy increased from less than 30 years to 70 years. Literacy rates, extreme poverty, infant mortality and growth have all risen dramatically in a similar fashion. Not everyone's experience may have been positive, and the benefits have been unevenly distributed, but in many ways, economic growth and technological progress have changed the way billions of people live. How do we explain the sudden surge in relative wealth and technological power? What happens if growth slows or stops? These are key questions for "progress studies," a nascent academic field and intellectual movement that seeks to analyse the causes of human progress in order to better advance it. To understand the progress studies movement, we must first understand its fears. In the past few years, some researchers and economists have been concerned that technological progress may be slowing, which they fear could lead to stagnant economic growth.

The United States between 1870 and 1970, were based on transformative, one-off innovations, and therefore Americans cannot expect to return to similar levels of growth any time soon. What's remarkable "is not that growth is slowing, but that it has continued to grow rapidly for a long time," he wrote. According to Gordon, no one is to blame for the slowdown in economic growth: "After 1970, economic growth in the United States slowed not because inventors lost inspiration or lacked new ideas, but because the basic elements of the modern standard of living largely failed." Gordon's argument is

based on the fear described in economist Tyler Cowen's 2011 book *The Great Stagnation*. Cowen also believes that the United States has eaten most of the "low-hanging fruit" that has allowed the average income in the United States to continue to rise, but that the United States cannot expect to continue to grow as much as in the past. A team of economists from Stanford University and the Massachusetts Institute of Technology posed this question in a 2020 paper.

They found that the volume of research and development has increased significantly, but the productivity per researcher has declined. In other words, the time and money we spend in exchange for something is getting smaller and smaller. They estimate that each doubling of technological progress requires four times the research effort of the previous doubling. Artificial intelligence (AI) can also help reverse this decline and even usher in a new era of explosive growth, but some researchers are concerned that super-smart AI could create other risks, harm progress or even worse [20, 21]. Crawford attempted to systematise the implications of the study of progress [1]. He believes that this movement is correct on three counts. First, this development is real. Material living standards have improved significantly over the past 200 years or so and for some reason "something is clearly very right". Second, the benefits of progress are defined in humanistic terms: "helping us to live better lives: longer, healthier and happier lives; giving us more choices and opportunities in life; providing lives in which we thrive". accelerate or slow it down: "Continued progress is possible, but not guaranteed." [1]. With this description, the belief in progressive research seems so broad that almost anything can be covered under its auspices. After all, many movements claim to support the improvement of human well-being. During a panel discussion at AynRandCon, Crawford described progressive research as a philosophical system close to Objectivism, a term coined by 20th-century philosopher Ayn Rand [13]. Crawford also hopes that progress studies will lead to "political debates framed in terms of progress and growth, rather than primarily or exclusively in terms of redistribution." [1] In his book *Exploring Echo-Systems: How Algorithms Shape Immersive Media Environments*, published in 2018, Cowen noted that "sustainable economic growth" should become the North Star of global civilisation [2]. As progress researchers often point out, GDP per capita is positively correlated with a variety of things that are considered desirable, such as consumption, leisure, longevity, and even moral progress.

Thus, progress studies use a framework and language of progress that seems global and inclusive, but in practice is underpinned by a particular set of social and political worldviews. It is simply a concept of human progress and prosperity.

Advances in biotechnology, such as the dramatic drop in the cost of DNA synthesis, have made diseases more contagious and deadly than ever before. Many researchers in the progressive camp have advocated for a general acceleration of biotechnology research by reforming funding models and loosening restrictions on researchers indicating which diseases our new knowledge can cure. But the results of rapid development

in this area could benefit malicious actors or increase the risk of catastrophic accidents. Risk-oriented biotechnology approaches, such as those funded by Open Philanthropy, focus primarily on developing defensive capabilities, such as tests that can detect new pathogens. Or consider the progressive approach to climate change, which is different from the environmentalist movement. Crawford believes that "some very advanced nanotechnology has given us some fundamental capabilities, such as the ability to transform the Earth, and climate change will no longer be a problem. We just need to control the climate." A scientific and comprehensive policy system is an important guarantee of unlocking innovation potential and stimulating the viability of innovation [8]. Implementation of a scientific and integrated policy system to maximise the unlocking of innovation potential in defence and security is a key element of strategic development. This system allows for the effective integration of military-scientific and technological innovations, ensuring high readiness and compliance with modern challenges. It enables the country to make optimal use of resources, create competitive advantages, and ensure security and stability. In line with its deep scientific and technical potential, such a system makes the country attractive for international cooperation and contributes to the development of global strategic alliances, while taking into account humanitarian benefits and economic development. Taking the adjustment and reform of institutional mechanisms, policies and systems as an important starting point, we must resolutely break down barriers, break the ice, remove thresholds, break down institutional barriers and vested interests, and fully activate institutions, talents, equipment, facilities and projects to build a system conducive to scientific and technological innovation. A powerful force for development. Adapt to the new system and new requirements, focus on the management, evaluation and assessment of military scientific research plans, attestation of results, transformation of achievements, funding guarantees, etc., conduct in-depth research and study, strengthen planning and design, and promptly establish Institutional adjustments and results of reforms will maximise the release of reform energy. Adhere to the integration of military innovation into the national innovation system, actively establish a civil-military innovation cooperation mechanism, promote the expansion of integration from traditional areas to new areas, and form a multi-dimensional integration, coordinated promotion and leapfrog development pattern. for new areas of comprehensive development that will greatly improve the advantages of the national system. Military S&T innovation plays an important role in improving military capabilities, security and the effectiveness of defence systems. Here are some of the qualities and benefits of military S&T innovation:

Innovations in military science and technology enable the development of more powerful and accurate weapons, as well as improved intelligence, surveillance and communications systems. This provides an advantage in operations and helps to reduce risks for military personnel. Innovations allow for the modernisation of existing military equipment systems,

making them more efficient, safe and versatile [8]. This includes the development of new combat platforms, drones, defence equipment and other technical solutions. Given the current threats posed by cyber attacks, it is important to develop innovations in cybersecurity. Military research and development is aimed at protecting against cyber threats, detecting and countering attacks, and developing cyber weapons to control the situation in cyberspace. Innovations allow for the creation and improvement of strategic systems, such as nuclear weapons, ballistic missiles and other strategic weapons. This ensures national security and deterrence of potential adversaries. Some innovations are aimed at improving the humanitarian aspects of military operations, such as the development of technologies for fast and effective medical care on the battlefield, as well as means of protecting civilians.

Innovations make it possible to create more secure weapons and equipment, reducing the risks to the military personnel lives and health. In general, military scientific and technological innovations play a key role in strengthening the country's defence capability and ensuring national security in the face of modern challenges and threats.

**Conclusions.** Summarising the study and analysis of the impact of war on social development and scientific and technological progress in the context of philosophical discourse, it can be noted that military conflicts not only pose a serious challenge to society, but also have a significant impact on philosophy, culture and technological progress.

It has been found that the philosophy of war permeates all spheres of life, determining the worldview of society. Military conflicts encourage a rethinking of ethical and moral issues, which is determined by the tragedy of war and the need to find a way out of the conflict at the level of value orientations.

It has been documented that wars can also stimulate technological development. History shows that during wars, many scientific and technological innovations emerged as a result of the needs of armies. However, this positive aspect is accompanied by the threat of using technology for military purposes, which can have negative socio-cultural consequences.

In addition, it is noted that philosophical discourse in this context helps to better understand the nature of war, its impact on society and the role of science in this process. The philosophy of war becomes a tool for understanding the causes and consequences of conflicts, as well as for finding ways of peaceful settlement and prevention.

Finally, the study of these aspects contributes to a deeper understanding of the relationship between war, social development and scientific and technological progress.

## References

1. Alan Crawford, Wendy Saul, Samuel Matthews, James McInster. (2006). *Technologies for the development of critical thinking of students*. Kyiv : Pleiades. 217 p.
2. Cohen, J.N. (2018). Exploring Echo-Systems: How Algorithms Shape Immersive Media Environments. *Journal of Media Literacy Education*, № 10 (2). P. 139-151. DOI: <https://doi.org/10.23860/JMLE-2018-10-2-8>
3. Haidi Zhou, Qiang Wang, Lixu Li, Thompson S.H. Teo, Shuili Yang, Supply chain digitalisation and performance

improvement: a moderated mediation model, *Supply Chain Management: An International Journal*, 10.1108/SCM-11-2022-0434, 28, 6, (993-1008), (2023).

4. Karamyshev D.V. (2022). Organisational and legal principles of civil-military cooperation on defence and life support of the Armed Forces of Ukraine under martial law. *State Building*. № 1 (31). P. 6-20. DOI: <https://doi.org/10.26565/1992-2337-2022-1-01>

5. Karamyshev D.V. (2022). Organisational and legal principles of civil-military cooperation under martial law. *Abstracts of the XXI International Scientific Congress "Public Administration of the XXI Century: in the Context of Hybrid Threats"*, 27 April 2022. P. 15-18.

6. Kitorov M.O. (2023). The current state of development of the military education system as a component of the general education system *Scientific Journal of the Drahomanov National Pedagogical University*. Vol. 1, Series 5. Pedagogical Sciences: Realities and Prospects. P. 59

7. Lavrynenko V.M. Loginov M.M. Philosophy of War: Historical and Economic Aspects. *Bulletin of the Academy of Labour and Social and Labour Relations of the Federation of Trade Unions of Ukraine: scientific and practical collection*. editors: V.V. Buyashenko (Chairman) [et al.]

8. Innovative development and creativity during military operations in Ukraine. *Education and science in the period of global crises and conflicts in the XXI century: materials of the International Scientific and Practical Conference "Education and Science in the period of global crises and conflicts in the XXI century"* (Kyiv, 08-09 December 2023). V. Shpak; edited by S. Tabachnikov. Kyiv : SE "Express-oblozhennia", 2023. 196 p. P. 41-44.

9. Matushevych V. (1998). Political Culture: Theoretical and Methodological Problems of Research. *Sociology: theory, methods, marketing*. № 4-5. P. 5-20.

10. McAfee A., Brynjolfsson E., Davenport T.H. (2012). Big data: the management revolution. *Harv. Bus. Rev.*, 90(10): 60-68.

11. Min-Jae Lee, Taewoo Roh (2023). Digitalisation capability and sustainable performance in emerging markets: mediating roles of in/out-bound open innovation and competition strategy. *Management Decision*, 1 DOI: <https://doi.org/10.1108/MD-10-2022-1398>.

12. O'Neil C. (2017). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. Broadway Books, New York.

13. Rand A. (2016). *Atlas Shrugged: A novel*: in 3 vols. Alpina Publisher.

14. Pinedo M., Xu Y. (2017). Operations in Financial Services: Processes, technologies and risks. *Foundations Trends Technol. Inf. Oper. Manag.* 11 (3): 223-242. DOI: <http://dx.doi.org/10.1561/02000000048>.

15. Richards N.M., King J.H. (2014). *The ethics of big data*. Working paper.

16. Richard Paul, Linda Elder. *A Miniature Guide to Critical Thinking Concepts and Tools*. The Foundation for Critical Thinking. Retrieved from [www.criticalthinking.org](http://www.criticalthinking.org).

17. Paul R. (1990). *Critical Thinking: What Everyone Needs to Survive in a Rapidly Changing World*. Rohnert Park, CA: Centre for Critical Thinking and Moral Criticism, Sonoma State University.

18. Reed J.H., Cromray J.D. (2001). Teaching Critical Thinking in the Community College History Course: Empirical Evidence from Paul's Model – Including Statistical Data. *College Student Journal*.

19. Rodrigo Caporali De Andrade, Paul T. Grogan, Somayeh Moazeni. (2023). Simulation evaluation of data-driven channel allocation and contact routing in customer support systems. *IEEE Open Journal of Systems Engineering*, 1: 50-59, DOI: <http://dx.doi.org/10.1109/OJSE.2023.3265435>,

20. Sunil Mitras, Zhi-Long Chen, Terence J.V. Saldanha, Alisson De Oliveira Silveira. (2022). How Artificial Intelligence and emerging Industry 4.0 technologies are transforming operations management, *Production and Operations Management*, 31: 12, DOI: <http://dx.doi.org/10.1111/poms.13864>

21. Pradeep Jha, Riddhima Baranwal, Undefined Monika, Naveen Kumar Tiwari. (2022). *Second International Conference on Artificial Intelligence and Smart Energy (ICAIS)*, DOI: <http://dx.doi.org/10.1109/ICAIS53314.2022.9742970>.

22. Tarnashynska L. (2019). Philosophy of war and peace: anthropocentric dichotomy of love/hate as a motivation for heroism (based on Letters to a German friend by Albert Camus). *Word and Time*, 4: 3-14. <https://doi.org/10.33608/0236-1477.2019.04.3-14>

23. Sectoral Working Group "Education and Science". Ministry of Education and Science of Ukraine. Retrieved from <https://mon.gov.ua/ua/ministerstvo/diyalnist/mizhnarodna-dilnist/mizhnarodna-tehnichna-dopomoga/sektoralna-robocah-grupa-osvita-inauka1>

24. Support for education and science of Ukraine during the war. Ministry of Education and Science of Ukraine. Retrieved from <https://mon.gov.ua/ua/ministerstvo/diyalnist/mizhnarodna-dilnist/pidtrimka-osviti-i-nauki-ukrayini-pid-chas-vijni>

Надійшла (received) 19.12.2023

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УДК 004.5:316.77:130.2

doi: 10.20998/2227-6890.2023.2.06

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## ПРО ІНТЕЛЕКТУАЛЬНІ ЗРУШЕННЯ В ІСТОРІЇ ЛЮДСТВА (МИСЛЕННЯ ДЛЯ ІНФОРМАЦІЙНОГО ПРОСТОРУ)

Стаття присвячена одному з найактуальніших питань сучасної філософії, а саме – проблемі формування інтелектуального багажу людства. Мова йде про інтелектуальні революції, про їхній характер і періоди становлення. Автори використовують метод філософської рефлексії, спираючись на першоджерела попередніх дослідників цього процесу, починаючи з їхнього концептуального аналізу з метою відстежити періоди і характерні ознаки розвитку цих складних процесів еволюції людини і її інтелектуального підґрунтя. Автори висувають тезу, що сьогодні людство знаходиться на порозі третьої інтелектуальної революції. Підтвердженням цього є активне використання нового термінологічного словника, який вже став «повсякденням» нашого життя, не зважаючи на те, що він є результатом розвитку високих технологій інформаційного характеру.